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THE

NARRATIVE

OF

THE DELUGE

LARIMORE, N. D.

PRINTED BY H. V. ARNOLD

1914

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THE NARRATIVE OF THE DELUGE

WITH ITS DUAL TEXT AND A CRITICAL COMMENTARY

"It is just as undesirable to retain an erroneous idea as it is to accept one."—Wm. Newton Clarke.

LARIMORE. N. D.
PRINTED BY H. V. ARNOLD
1914

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This pamphlet will be found to be a unique work of its kind. It is not a sale work, and only about 54 copies have been printed.

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PREFACE

Where a person chances to take an interest in some subject, even if their opportunities of meeting with literature bearing upon the matter are very limited, in the course of thirty or forty years, if interest in the topic be kept up, a rather wide fund of information on that subject will have been gathered. The writer's attention was drawn to the subject about the year 1866, while still of the age of a high school boy. This was in Houston County, Minn., and came by reading the dissertations and notes on the Flood in the Cottage Bible. Early in 1872, being then back in Connecticut, Clarke's Commentary was met with and his comments on the story of the Flood was perused with deep interest, all unaware however, as to how far behind the knowledge of the times such works as those mentioned had already drifted. It was not until the last years of the seventies that any critical literature on the subject began to come in our way, such as Hugh Miller's two chapters relative to the Deluge.

The present work represents the literary gatherings of nearly fifty years. Altho the writer has not regarded the story of the Deluge as being at all historical since the later seventies, this work should not be construed as being any attack upon the views of those who feel constrained to accept the story as historical. It is rather a treatise on the changeful opinions held by different generations in relation to the matter; on the controversies that the subject engendered; on the curiosities of the topic; also plain statements, mostly in the language of others, showing why the majority of students of science decline to accept the deluge story as a narrative of facts.

Let it be borne in mind that the scientific view of the subject is infiltrating the minds of the students of the universities, colleges, theological seminaries, and even the most intelligent boys among high school pupils.

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THE
NARRATIVE OF THE DELUGE

INTRODUCTORY.

HISTORICAL criticism does not readily accept the legendary stories in Genesis and in the book of Exodus as being in their nature historical. Those narratives are rather history idealized. Every nation that has ever had a literature includes in its beginning a traditionary period wherein fact and myth are to a greater or less extent, inextricably blended. So far as history teaches no nation is known to have sprung from a single family and their dependents, but rather from aggregations of clans and tribes, usually of the same stock. It is not thought, then, that from the standpoint of historical criticism that the Israelites could ever have formed any exception to the general rule. The ancient nations had their mythical ancestors to whom they attributed their primary origin.

Historical criticism therefore endeavors to reconstruct the primitive history of the Hebrew people after this fashion: During the centuries preceding about 1400 B. C., the desert country south of Palestine, together with the Sinaiatic peninsula lying between the two gulfs at the head of the Red Sea, was occupied by nomadic tribes of the Semitic branch of the white race and who were kindred in some measure to the Amorites and Edomites. Their tribal god was Jahveh who was worshiped at Mt. Sinai. At this time a Semitic people called Hyksos or Shepherd Kings were in possession of

Lower Egypt, having invaded and seized the government of that country. The occupation of the country by the Hyksos is presumed to have lasted about 2100 to 1650 B. C. Sometime during this occupation some part of the Hebrew tribes were permitted to settle in the Nile delta territory, or Land of Goshen, because, it is thought, the Hyksos regarded them as a kindred Semite race. When the Egyptians of Upper Egypt or Theban kings succeeded in driving out the Hyksos and recovering possession of the country, they seem to have regarded the Hebrews as an alien people, being themselves of the Hamitic branch of the white race, and consequently they finally began oppressing them which caused the oppressed to entetain thoughts of returning to the country of their fathers, which was not remote from the part of Egypt in which they were settled.

To what extent the traditional history of Moses can be accepted as authentic, may be uncertain. Having had some connection with the Egyptian Court, and a natural sympathy for his people under oppression, he and his brother Aaron may have incited them to assemble together with their movable belongings and depart in the order of a great caravan, and Moses may have returned from exile to act as leader and lawgiver to this host of agriculturists and brick-makers. The miracles and prodigies attending the exodus are not to be regarded as historical, but rather as the gloss or reflections of priestly narrators who wrote several centuries afterwards. It is represented that the departing host took much spoil that belonged to the Egyptians and on that account and alarm over their gathering, the Egyptian government may have sent an army after them, partly to punish and partly to expel

them beyond the Egyptian frontier. As to the number of the outgoing Israelites, the earlier records are supposed to have stated that they comprised some 5000 families, magnified into between two and three millions of people through errors of later copyists.

There is no certainty either as to the date of the Exodus or as to which of several was the particular Pharaoh of the Oppression. No Egyptian records have been discovered that throw any light on the matter. Dates ranging from about 1550 to 1300 B. C. have been assigned to the Exodus On this point a theological textbook says: "From considerations as to where it would best fit in to what we know of Egyptian history, the Exodus has been placed in various periods, and numerous Egyptian kings have figured at different times as the Pharaohs of the Oppression or the Exodus. Attmepts are also made to combine the Biblical chronology, which, however, affords no clear or certain data, with that of Egypt, which is also only approximately known. The results are naturally unsatisfactory."

The Jewish historian, Josephus, about A. D. 90, rather scouted there having been anything miraculous in the passage of the Red Sea, or its western arm called on maps the Gulf of Suez. The Egyptian frontier across the isthmus having a line of ramparts, it is thought that the Israelites may have turned to the head of the gulf and taking advantage of a wind that drove back the waters and laid the bottom bare, have crossed in that way and so avoided the fortified line. The account of the destruction of Pharaoh and his pursuing army, in attempting to follow, is probably the gloss of a later age. Nothing known in Egyptian history, derived from the mouments or other sources, goes to confirm it.

The hilly country, Palestine, was then occupied by tribes of Hamitic Canaanites who at different times had been subjected to Egyptian and Babylonian influences. They had walled towns, knew the use of metals and are said to have been more civilized than the host that had left Egypt. They are said to have had libraries in some of their towns and one of these places was called the "City of Books." They appear to have been governed by tribal chieftains, at times tributary to Egypt and Babylonia. They were Baal worshippers, and of other deities, and their sacred groves, high places and pillars or standing stones, had came down to them from the Neolithic and Bronze ages.

When the Israelites left Egypt they had no intention of trying to conquer the Canaanites, entrenched in their walled towns. The forty years wandering in the wilderness seems to be a reflection of the nomadic life to which the Hebrews returned. During this time Moses probably provided them a code of laws and regulations for worship. All codes of law are subject to change, alteration, revision, etc., by reason or the repeal or the dropping out of use of old laws and the enaction of new ones with the lapse of time and the needs of successive generations. Now the bulk of the Old Testament writings, as has been ascertained by modern biblical scholarship, belong to such periods as the later Jewish Monarchy, the Exile or Captivity, and the Return. The five books formerly ascribed to Moses belong to those periods, but were more or less based upon older writings and traditions. After several editings or redactions, involving changes, alterations and additions, materials in the books that date back to the time of Moses become rather uncertain.

The Hebrews had a method of reckoning by generations, a generation supposedly comprising forty years, regardless of chronological exactitude as applied to the succession of historic events; thus David, Solomon and some other kings reigned through a generation or forty years each; Moses lived three generations or 120 years, and the use of the number forty occurs in other ways. This and other considerations introduce an element of uncertainty into biblical chronology.

The Amorites and Edomites and perhaps kindred tribes were sometimes at war with each other. Taking advantage of these troubles, the Hebrews were enabled to take possession of part of the country east of the river Jordan and Dead Sea, and having gained a foothold there, they next proceeded to begin the conquest of Palestine. Some sections were likely peacefully occupied and others taken by force under the leadership of Joshua, their general. It was but gradually that the conquest of the country was effected. The Hebrews neither drove out nor extirpated the Canaanites but in course of time absorbed them into a common nation, also taking over their sacred places and probably many of their traditions. The books of Joshua and Judges reflect memories or traditions of the conquest and continuance of tribal government. There was so little of national cohesion that Jerusalem, which became the Jewish capital under the kings, was not taken until the reign of David, their second king (1055-1015 B. C.) The amalgamation in Palestine of people of diverse origin would seem to account for occasional relapses from the worship of Jahveh and the retention under different kings of the high places and altars, where sacrifices were performed.

The Jewish Monarchy lasted from about 1095 B. C., to 586 B. C., when Jerusalem was taken and sacked by Nebuchadnezzar and the principal part of the people borne away captive to Babylonia. There were two bearings away of the people captive, first, the principal people of Jerusalem, and afterward the agriculturalists and common people generally, of Judea, only a miserable remnant of the nation being left in the country. This was the Exile or Captivity, or until the Return, about 536 B. C.

A considerable literature undoubtedly accumulated during the Jewish Monarchy. There are sixteen books referred to by name in the old Testament writings that are now lost and others were produced during the Exile. Among the books of monarchial times was one written in the southern or Judean kingdom about 850 B. C., and by an author, who, not being known, is called the Jehovist. A similar work, but somewhat variant from the other, was produced in the northern or Israelite kingdom a generation later, or about 800 B. C., by a writer called the Elohist. Both works contained Hebrew narrative traditions and collections of laws that were supposed to be Mosaic.

The five books collectively called the Pentateuch were until modern times quite generally ascribed to Moses, except part of the last chapter of Deuteronomy which records his death. The books are rather about Moses than containing anything implying authorship by him. The Book of Joshua added to the previous five, constftute what is called the Hexateuch. All six books before their separation originally constituted one volume, both a History and Law Book.

In regard to the composition of these books and how they came to be as they are, we shall let others tell in a series of extracts form their writings. The first is from a small book called "The Bible and Criticism," by W. H. Bennett & W. F. Adeney, circulated in Great Britain and also in this country. It contains 94 pages and is an epitome of a larger work by the same authors which is used as a text-book in theological colleges.

"At some time in the early Monarchy, say between 900 and 750 B. C., two independent collections were made of the laws and of the narratives concerning the history of Israel up to the death or Joshua. These collections are known as the Jehovistic Document, so called because it uses the Divine Name Jehovah in Genesis, and denoted by the symbol J, and the Elohistic Document, so called because it uses the Divine Name Elohim in Genesis, and denoted by the symbol E.

"In some instances the same narrative occurs in both documents in different forms.

"Toward the close of the Monarchy, about 650 B. C., these two documents were combined so as to form a single work, JE.

"Where the same narrative was found in both, the compiler sometimes inserted both versions as separate narratives, e. g. the two accounts of the expulsion of Hagar, Gen. xvi. 4--8, J; xxi. 8--21, E. Sometimes, however, the compiler pieced together sentences and clauses from the two narratives so as to form a single connected story, e. g. the story of Joseph. JE included the Book of the Covenant,

"A second edition of the Law was made about 650 B. C. This second edition is Deut. xii.--xxvi; possibly

other portions of Deuteronomy were also included. This document is denoted by D. Somewhat later, probably during the Exile, D was enlarged and combined with JE, the editor adding various notes—JED. The laws in D are partly repeated or modified from those in E so that JED includes many laws twice over.

"After the Exile, about 500 B. C., a third edition of the Law and History was compiled in Babylonia. This is the Priestly Code. It included a revised version of the history from the Creation onward, and numerous laws, very largely concerned with ritual, with the priesthood and their vestments, the tabernacle and its furniture, and the division of the land. Even the narratives of this document are really legal material, case-law, or precedents. Thus the Priestly account of the Creation, Gen. i. 1--ii. 4a, is really an account of the institution of the Law of the Sabbath.

"This document is called P; it is partly based on the documents already mentioned, partly on custom and tradition; it also includes a code, the Law of Holiness, H, which was compiled during the Exile, or shortly before or after. Many of the narratives in P are modified versions of narratives in JE.

"Sometime after the Exile, perhaps about 400 B. C., the Priestly Code was combined with JED, the result being our Hexateuch, i. e. the Pentateuch and Joshua.

"Here again the editor sometimes placed parallel accounts of the same event side by side [meaning that they follow one another] as separate narratives, e. g. the two Creation stories, Gen. i.--ii. 4a, P, and Gen. ii. 4b--25, J. Sometimes he pieced them together into a single narrative; thus the story of the Flood is a

mosaic of sections from P and J.—Later on the Hexateuch was divided into the Pentateuch and Joshua, and finally the Pentatench was divided into the present five books.

"There is no absolute proof that any part of the Pentateuch comes to us from Moses, but it is quite possible that some sections may be based on material which either originated with him or received his sanction."

"It was seen that the old view was untenable because it allowed for no progress or development in the religion of Israel and this was contrary to the principle of evolution on which it has pleased God to order His dealings with man, as He has ordered the organic and inorganic worlds. If the so-called 'Elohistic' document was the oldest writing in the Hexateuch, then the religion of Israel sprang full-grown from the brain of Moses like Minerva from the head of Jove, and to this idea the data contained in the works of the earliest writing prophets and in the books of Judges, Samuel, and Kings, not to speak of the so-called 'Jehovistic' document itself, were absolutely opposed. Moreover a closer study of the documents showed that the so-called 'Jehovistic' document was itself composite, and that many of the 'Elohistic' passages in reality belonged to it. It was then that Wellhausen was led to his epoch-making discovery that the Prophets came before the Law, and with this the whole history of Israel and her religion was thrown into the right perspective, and the chosen race was brought into the proper relationship with the other races of mankind. It then became possible to place the documents which enshrine the story

of Israel and her religion in their historical sequence, and to bring out the progressive character of the revelation contained in Old Testament and thus a great step in advance was gained."

The foregoing extract from a book called Prehistoric Archæology and the Old Testament, Astley, Edinburg, dated 1908, will need a little explanation in relation to the "documents" mentioned. In the first place, both the Priestly Writer and the Elohist used the Divine Name "Elohim" and while the early investigations were in progress, both on that account were mistaken for a single writer, which occasioned some perplexity, first apparent in Gen. xx. Finally Hupfeld (1796-1866) distinguished an earlier and later Elohist. The later is now called the Priestly Writer (P) and Astley has in mind the Elohist in this older sense. In speaking of the Jehovistic document being itself composite and containing Elohistic passages, reference is had to the document JE, as blended with the prior writings J and E, by an editor or redactor who used both documents or such parts of them as suited his purpose.

"The work of the Elohist begins comparatively late in Genesis. Except a few important fragments we find no trace of him before the 20th chapter, when he begins by telling how Abimelech stole Sarah. There is every reason to believe that his work was originally of much wider scope, the compiler of Genesis, making use of the Priestly Writer and the Jehovist for the earlier chapters, permitted that portion of the Elohist's work to perish, which is a great pity."—Elwood Worcester.

"It is a fortunate circumstance that the author of the Pentateuch has so faithfully preserved the representa-

tions and even the language of the earlier works from which he borrows. This renders critical analysis possible, and enables us to recover, in part at least, the older histories from which our Pentateuch was compiled. These older works are primarily two, one of which is commonly called, from its predominating interest in the religious and especially the sacerdotal institutions of Israel, the Priestly History and Law Book (P); the other from its affinity with the literature of the flourishing period of prophecy is sometimes called The Prophetic History (JE)."—Encyclopædia Biblica.

The next extract, in relation to the periods when the documents were written or joined together, is from a theological college text-book called "The World Before Abraham," by H. G. Mitchell.

"The conclusion reached in regard to the age of the Pentatench, then, is, that J originated about 850 and E about 800 B. C.; that the two having been more or less revised and enlarged were united into a composite document before 639 B. C.; that D, which was discovered in 621 B. C., but must have been written sometime before and revised in the reign of Manasseh, was incorporated with JE early in the Captivity; and that the Pentateuch was practically completed by the addition of P, a product of the first half of the fifth century B. C., before 444, if not before 458, the date of Ezra's appearance in Palestine."

It now remains to state the proportions of each book of the Pentateuch, generally, attributed to the principal writers by biblical scholars. The work of the Priestly Writer and those of his school formed the framework

of the Pentateuch, and book of Joshua. To this writer or writers, is attributed one fifth of Genesis, nearly half of Exodus, the whole of Leviticus, nearly three-fourths of Numbers, and part of the last chapter of Deuteronomy. To the Deuteronomists is credited most of that work with a few verses borrowed from J and E. The Jehovist is credited with about one-half of Genesis, a sixth of Exodus and one fifteenth of Numbers. To the Elohist is atttributed one-fourth of Genesis, one-fourth of Exodus, and a ninth part of Numbers.

The redactor JE, or second Jehovfst, is not thought to have added very much to his selections from the two older works from which he compiled his document. Such parts of either as he may not have used, except at the expense of one or the other, likely perished.

The Elohist, it is thought, had no flood story in his document, hence the same appears to have been taken over bodily into the document JE as it had been told by the Jehovist. The later Priestly Writer also included a story of the flood in his document which became the framework of the narrative as it stands in Genesis. But the compiler had the document JE before him and made from it extracts from the Jehovist's version, besides adding a few notes of his own.

In reproducing the biblical account the parts printed in large type are those now assigned to the Priestly Writer; the Jehovist's are in small type, and the notes of the redactor, or what are thought to be such, are printed in leaning letters.

THE BIBLICAL STORY OF THE FLOOD.

Chap. vi. 1-8. The sons of God and daughters of men.

AND it came to pass, when men began to multiply on the face of the earth, and daughters were born unto them, that the sons of Elohim* saw the daughters of men that they were fair; and they took them wives of all which they chose. And Jahveh said, My spirit shall not always strive with man, for that he also is flesh:† yet his days shall be an hundred and twenty years. There were giants in the earth in those days;‡ and also after that, when the sons of Elohim came in unto the daughters of men, and they bare children to them: the same became mighty men, which were of old, men of renown. And Jahveh saw that the wickedness of man was great in the earth, and that every imagination of the thoughts of his heart was only evil continually. And it repented Jahveh that he had made man on the earth, and it grieved him at his heart.§ And Jahveh said, I will destroy man whom I have created from the face of the earth; *both man and beast, and the creeping thing, and the fowls of the air;* for it repenteth me that I have made them. But Noah found grace in the eyes of Jahveh.

* The use here of the Divine Name as Elohim and again in a similar connection below it in a Jehovistic section is likely to be attributed to a change made by the later Redactors. The literal rendering then would be "sons of the gods."

† The exact meaning of what Jahveh is represented as determining for a future time, is considered a difficult passage to interpret or translate.

‡ Giants or Nephilim; another mention occurs Num. xiii. 33.

§ The attribution of human form, feelings, passions and actions to Deity is called anthropomorphism. It is common with the Jehovist, but not with the later Priestly Writer.

9. These are the generations of Noah: Noah was a righteous man, perfect in his generations; Noah walked with Elohim. And Noah begat three sons, Shem, Ham and Japheth. And the earth was corrupt before Elohim, and the earth was filled with violence. And Elohim saw the earth, and, behold, it was corrupt; for all flesh had corrupted his way upon the earth. And Elohim said unto Noah, The end of all flesh is come before me; for the earth is filled with violence through them; and behold, I will destroy them with the earth. Make thee an ark of gopher wood;* rooms shalt thou make in the ark, and shalt pitch it within and without with pitch. And this is how thou shalt make it: the length of the ark three hundred cubits, the breadth of it fifty cubits, and the height of it thirty cubits. A light shalt thou make to the ark, and to a cubit shalt thou finish it upward; and the door of the ark shalt thou set in the side thereof, with lower, second, and third stories shalt thou make it. And I, behold, I do bring a flood of waters upon the earth, to destroy all flesh, wherein is the breath of life, from under heaven; every thing that is in the earth shall die. But I will establish my covenant with thee; and thou shalt come into the ark, thou, and thy sons, and thy wife, and thy son's wives with thee. And of every living thing of all flesh, two of every sort shalt thou bring into the

* Gopher wood; supposed to mean pine or cypress.

ark, to keep them alive with thee; they shall be male and female. Of the fowl after their kind, and of the cattle after their kind, of every creeping thing of the ground after his kind, two of every sort shall come unto thee, to keep them alive. And take thou unto thee of all food that is eaten, and gather it to thee; and it shall be for food for thee and for them. Thus did Noah; according to all that Elohim commanded him, so did he.

VII. 1. And Jahveh said unto Noah, Come thou and all thy house into the ark; for thee have I seen righteous before me in this generation. Of every clean beast thou shalt take to thee seven and seven, the male and his female: and of the beasts that are not clean two, the male and his female: also of the fowl of the heaven, seven and seven, male and female; to keep seed alive upon the face of all the earth. For yet seven days, and I will cause it to rain upon the earth forty days and forty nights; and every living thing that I have made will I destroy from off the face of the ground. And Noah did according to all that Jahveh commanded him.

6. And Noah was six hundred years old when the flood of waters was upon the earth.

7. And Noah went in, and his sons, and his wife, and his sons' wives with him into, the ark, because of the waters of the flood. *Of clean beasts, and of beasts that are not clean, and of fowls, and of every thing that creepeth upon the ground there went in two and two, unto Noah into the ark, male and female as Elohim commanded Noah.* And it came to pass after the seven days, that the waters of the flood were upon the earth.

11. In the six hundredth year of Noah's life, in the second month, on the seventeenth day of the

month, on the same day were all the fountains of the great deep broken up, and the windows of heaven were opened.*

12. And the rain was upon the earth forty days and forty nights.

13. In the selfsame day entered Noah, and Shem, and Ham, and Japheth, the sons of Noah and Noah's wife, and the three wives of his sons with them, into the ark; they, and every beast after his kind, and all the cattle after their kind, and every creeping thing that creepeth upon the earth after his kind, and every fowl after his kind, every bird of every sort. And they went in unto Noah into the ark, two and two of all flesh, wherein is the breath of life. And they that went in, went in male and female, of all flesh, as Elohim commanded him: and Jahveh shut him in. 17. And the flood was forty days upon the earth; and the waters increased, and bare up the ark, and it was lift up above the earth.

18. And the waters prevailed and increased greatly upon the earth; and the ark went upon the face of the waters. And the waters prevailed exceedingly upon the earth; ~~fifteen cubits upward~~ ~~did the waters prevail~~; and all the high mountains, that were under the whole heaven were covered. Fifteen cubits† ~~upwards~~ upward did the waters prevail; and the mountains were covered. And all flesh died that moved upon the earth, both fowl,

* "The fountains of the deep and windows of heaven" will be discussed in the Commentary part. † About 27 feet.

and cattle, and beast, and every creeping thing that creepeth upon the earth, and every man.

22. All in whose nostrils was the breath of the spirit of life, of all that was in the dry land, died. And every living thing was destroyed which was upon the face of the ground, *both man, and cattle, and creeping thing, and fowl of the heaven*; and they were destroyed from the earth: and Noah only was left, and they that were with him in the ark.

VIII 1. And Elohim remembered Noah, and every living thing, and all the cattle that were with him in the ark; and Elohim made a wind* to pass over the earth, and the waters assuaged; the fountains also of the deep and the windows of heaven were stopped, and the rain from heaven was restrained; 3. and the waters returned from off the earth continually; and after the end of an hundred and fifty days the waters decreased. And the ark rested in the seventh month, on the seventeenth day of the month, upon the mountains of Ararat. And the waters decreased continually until the tenth month: in the tenth month, on the first day of the month, were the tops of the mountains seen.

6. And it came to pass at the end of forty days, that Noah opened the window of the ark which he had made: and he sent forth the raven, and it went forth to and fro, until the waters were dried up from the earth.† And he sent forth the dove from him, to see if the waters were abated from off the

* The commentators used to suggest that this wind might have been the Samiel, or Simoon, a hot, drying blast.

† According to the conception of the Jehovist, the raven did not return to the ark. Being regarded as an unclean bird, his idea perhaps was that it rested and fed upon floating carcasses.

face of the ground; but the dove found no rest for the sole of her foot, and she returned unto him to the ark, for the waters were on the face of the whole earth: and he put forth his hand, and took her, and brought her in unto him into the ark. And he stayed yet other seven days; and again he sent forth the dove out of the ark; and the dove came to him at eventide; and, lo, in her mouth an olive leaf pluckt off: so Noah knew that the waters were abated from off the earth. And he stayed yet other seven days, and sent forth the dove; and she returned not again unto him any more.

13, And it came to pass in the six hundred and first year, in the first month, the first day of the month, the waters were dried up from off the earth; and Noah removed the covering of the ark, and looked, and, behold, the face of the ground was dried.

14. And in the second month, on the seven and twentieth day of the month, was the earth dry. And Elohim spake unto Noah, saying, Go forth of the ark, thou, and thy wife, and thy sons, and thy sons' wives with thee. Bring forth with thee every living thing that is with thee of all flesh, both fowl, and cattle, and every creeping thing that creepeth upon the earth; that they may breed abundantly in the earth, and be fruitful, and multiply upon the earth. And Noah went forth, and his sons, and his wife, and his sons' wives with him: every beast, every creeping thing, and every fowl, whatsoever moveth upon the earth, after their families, went forth out of the ark.

20. And Noah builded an altar unto Jahveh; and took of every clean beast, and of every clean fowl, and offered burnt-offer-

ings on the altar.* And Jahveh smelled the sweet savor; and Jahveh said in his heart, I will not again curse the ground any more for man's sake, for that the imagination of man's heart is evil from his youth; neither will I again smite any more every thing living, as I have done. While the earth remaineth, seed-time and harvest, and cold and heat, and summer and winter, and day and night shall not cease.

IX. 1. And Elohim blessed Noah and his sons, and said unto them, Be fruitful, and multiply, and fill the earth. And the fear of you and the dread of you shall be upon every beast of the earth, and upon every fowl of the heaven, even all that moveth upon the ground, and all the fishes of the sea; into your hand are they delivered. Every moving thing that liveth shall be food for you; as the green herb have I given you all. But flesh with the life thereof, the blood thereof, shall ye not eat. And surely your blood of your lives will I require; at the hand of every beast will I require it, and at the hand of man; at the hand of every man's brother will I require the life of man. Whoso sheddeth man's blood by man shall his blood be shed; for in

* This paragraph from the document of the Jehovist is strikingly anthropomorphic. Says E. Worcester: "This is the first mention of an altar in the Bible. Such an act as the erection of an altar and the offering of sacrifice in Armenia we may be very sure would not be tolerated by the Priestly Writer, since he held to the unhistorical idea that an altar might be reared only in Jerusalem, and that acceptable sacrifice could be offered only by the sons of Aaron. This view, however, is not shared by the Jehovist, and is contradicted on every page of Israel's early history."

the image of Elohim made he man. And you, be ye fruitful, and multiply; bring forth abundantly in the earth; and multiply therein.

8. And Elohim spake unto Noah, and to his sons with him, saying, And I, behold, I establish my covenant* with you, and your seed after you: and with every living creature that is with you, the fowl, the cattle, and every beast of the earth with you; of all that go out of the ark, even every beast of the earth. And I will establish my covenant with you; neither shall all flesh be cut off any more by the waters of the flood; neither shall there any more be a flood to destroy the earth. And Elohim said, This is the token of the covenant which I make between me and you and every living creature that is with you, for perpetual generations: my bow have I set in the cloud, and it shall be for a token of a covenant between me and the earth. And it shall come to pass, when I bring a cloud over the earth, that the bow shall be seen in the cloud, and I will remember my covenant, which is between me and you and every living creature of all flesh; and the waters shall no more become a flood to destroy all flesh. And the bow shall be in

* The first mention in the Bible of a covenant occurs Chap vi. 18a, also by the Priestly Writer, and there merely promised, but in the present instance it is elaborated with considerable detail. Of the nature of a Divine Covenant (and they had an important bearing on the religion of the Hebrews) it means "a solemn engagement into which God deigns to enter with man, a promise that if man will do his part God will not fail him."—E. W.

the cloud; and I will look upon it, that I may remember the everlasting covenant between Elohim and every living creature of all flesh that is upon the earth. And Elohim said unto Noah, This is the token of the covenant, which I have established between me and all flesh that is upon the earth.

[Verses 18 to 27 inclusive, which relate to Noah planting a vineyard and the curse of Cainan, etc., are attributed to the Jehovist.]

28. And Noah lived after the flood three hundred and fifty years. 29. And all the days of Noah were nine hundred and fifty years: and he died.

DISCUSSIONS AND CRITICAL COMMENTARY.

I.

GENERAL REMARKS.

WE come now to the great story of the Deluge, which, after the narrative of the Creation and Fall of man, is the portion of Genesis that has had the greatest effect in shaping the thought of the world. The Flood narrative is the composite work of two writers whom we have already learned to know as the Priestly Writer and the Jehovist. Only here, instead of allowing their narratives to follow each other, the editor of Genesis has broken them up and has fitted the fragments together so as to form one rich and varied picture. In this mosaic some parts overlap, i. e., repetitions and discrepancies occur which could not well be avoided. The two documents are so dissimilar in style and expression that it is possible for the most part to separate them, and in this way to discover the two original accounts, or all that is left of them. The separation of these two documents is the result of a long critical process which has been going on for many years. As to the trustworthiness of these results I will only say that the most gratifying unanimity prevails among the great scholars. As a rule the line of cleavage is clear and distinct. The work of the Jehovist and the work of the Priestly Writer are easily distinguished. It is true, the additions made by the Redactor

in giving the work its present form are not always so plain."*

"In the story of the Flood, both our writers have preserved very complete accounts of that wonderful event, neither of which the editor of Genesis wished to sacrifice. Two courses, therefore, were open to him. Either he could let these two accounts follow each other, as he did in the case of the two accounts of Creation, which would be rather mechanical; or else he could work both narratives together into one continuous story by breaking up each account and fitting the various fragments together as best he could. It is a proof of the care with which the Redactor did his work, that when these two dislocated documents are detached from each other and are put together again in their original order, we have two independent and nearly complete stories of the Flood—one from the Priestly Writer and the other from the Jehovist.

"There is one thing, however, which no editor, however conscientious, could avoid in piecing together two narratives in this way—that is, repeating himself. This accounts satisfactorily and perfectly for those strange repetitions and discrepancies which run all through the Flood story, and which so many persons have criticised or ridiculed."†

In regard to repetions the following may be mentioned: 1. There are two introductions in chapter six that assign a cause for the bringing of a flood upon the earth. 2. There is mention twice of Noah and his

* Elwood Worcester, Genesis in the Light of Modern Knowledge, pp. 323, 324. † Ibid, pp. 317, 318.

family and the animals entering the ark. 3. Twice the ark is stated to be borne upward upon the waters of the Flood. 4. Twice all living things left upon the land are said to have died. 5. Twice the subsidence of the waters is described. 6. The promise that a flood shall not again desolate the earth is twice given. Moreover, the Priestly Writer often repeats himself by reiterating certain sentences and clauses. Here follow two characteristic repetitions:

"Thus did Noah according to all that Elohim commanded him, so did he." vi. 22. (P.)

"And Noah did according to all that Jahveh commanded him." vii. 5. (J.)

Any two documents by different authors which relate the same events are quite apt to agree as to the main particulars, but to present discrepancies in regard to subordinate passages and minor details. Such, it is evident, occur in the narrative of the Deluge. The Priestly Writer most likely was acquainted with several versions of the flood story, among others that of the Jehovist as contained in the document JE. Writing some three centuries later than the Jehovist, he had views of his own in regard to the variable flood legend. He assigns as a cause of the deluge the breaking up of the fountains of the deep and the opening of the windows of heaven, which accords with his ideas of cosmogony, Gen. i 2, 7, On the other hand, the Jehovist mentions no other cause for the deluge than a heavy downpour of rain lasting forty days and forty nights.

"The composite character of the narrative is seen from repetitions: as to entering into the ark, the raising of the flood, the perishing of all living creatures, and

the drying of the earth; and from contradictions: in P we have periods of 150 days, in J of 40 aud 7; in P there are pairs of all the kinds of animals; in J sevens of the clean, pairs of the unclean."*

"I pass over other repetitions and contradictions, but I think those mentioned are sufficient to prove that two separate accounts are closely interwoven in these chapters. No sane writer repeats and contradicts himself in this manner. In our study of the Flood I think it will be best to treat each account separately. There are, of course, differences of opinion as to the authorship of some verses, but on the whole the line of cleavage is wonderfully distinct."†

In the light of modern knowledge, and in the light of even the science commonly taught in present day school books, the flood story is not lacking in crude statements, but so impressive is the narrative, and so wide has been its acceptance as literal history, that these points have been rather obscured; nevertheless, in times past, they have often been made the subject of criticism and even ridicule at the hands of persons intelligent enough to notice them. These points will be discussed later, particularly when we come to treat of the difficulties that began to accumulate in relation to the narrative resulting from the increase of knowledge after the year 1830, in consequence of which commentators and other theological writers began to encounter embarrassments from which their predecessors had been singularly free. It will next be in order to give some attention to the style and characteristics of both of the writers of the

* Bennett and Adeney, Biblical Introduction, p. 30.

† E. Worcester, Genesis in the Light of Modern Knowledge, pp. 321, 322.

flood narrative as these have been inferred or deduced from certain remains of their writings scattered through the Pentateuch.

"Although this Priestly Writer sometimes deals with history, it is chiefly for the sake of accounting for certain laws and customs. Even in his inimitable first chapter of Genesis he does not tell the story of creation out of love for natural science, but in order to show what arrangements were made for man, and by what means the chosen people were gradually formed, and from what noble, God-fearing men they were descended. Accordingly he is much interested in family history, which sometimes contracts to a mere thread. We see in his writings none of the warmth of feeling of the Jehovist. He presents few interesting anecdotes; he paints few great characters. One feels that he is always in a hurry to get through, but is prevented by his innumerable repetitions. His language is dry, stiff and legal, with the reiteration of certain favorite forms of expression.

"On the other hand, his views of Deity are very elevated, if somewhat cold. He is an absolute monotheist. Elohim is the unique cause of all that exists.

"For the rest, the Priestly Writer holds austere and simple views of God. The God who makes coats for men, comes down and converses with them familiarly, sups with Abraham and makes Sarah laugh, is not his Creator, whom he carefully shields from every suspicion of familiarity. He even goes so far as to avoid all mention of angels, and, true to the principle laid down in Leviticus, of one supreme shrine and one altar, he avoids all mention of the old shrines and sacred

places of Canaan which the other two writers love to associate with the lives of the patriarchs."*

"His style," says another writer, "is unmistakable. It is logical and orderly beyond that of either of the other documents. The contents of the document were largely legal, chronological and genelogical; at any rate that is the character of most of the portions of it that have been preserved,"†

"The Jehovist, of whom I now wish to speak, is in some respects quite the equal of either [the Priestly Writer or the Elohist] and in one respect he is superior to both. He is more original. While using the old narratives freely like the Elohist, he knows how to extract more spiritual truth from them. He scarcely ever tells a story for the love of the story itself. In telling it he makes it throw some light on the moral life of man. We have seen how little it was possible to gather from the writings of our other two authors in regard to the men themselves. They are too objective. The Jehovist, on the contrary, is intensely subjective. He is, I may say, a passionate writer, haunted by ideals. It is therefore very probable that in relating the old stock of traditions he modified them far more than did either the Elohist or the Priestly Writer, but, on the other hand, he has stamped them with the sign manual of a great genius. Passing through the conscience of the Jehovist, these old stories are freed from their earthly dross and become forever living symbols of the spiritual life. Who knows how much virtue this man

* E. Worcester, Genesis in the Light of Modern Knowledge, New York, 1901. pp. 43, 44, 45.

† H. G. Mitchell, The World Before Abraham. N. Y., 1901.

has created, or how much of our moral life we owe to the religious genius of him who for want of a better name we call the Jehovist?

"In the Jehovist we meet for the first time with a profound philosophy of life. He is penetrated with a sense of man's sin, and he sets himself to discover its causes. In attempting to solve the problem of the origin of man's iniquity, he wrote those chapters of Genesis which have borne the greatest fruits.

"In spite of the painful melancholy of these narrations, they possess a charm and teach a lesson that will never die. Such narratives as the Fall, the fratricide of Cain, and the Flood, under the simplest garb contain truths of such depth that we may explain away the myth as much as we please without affecting them in the least. Light shines on the face of the abyss, and yet the deep remains deep."*

"The remains of the Yahwistic† work show that the interests of its author (or authors) were predominantly religious, and that he wrote the history of his people for the purpose of imparting instruction in the truths that bear upon national and individual life and character.

"The style is free and flowing, picturesque and poetical; therefore always interesting, and sometimes highly dramatic. The theology is naive and primitive, God, e. g. being sometimes represented, not only as possessing tangible parts and displaying human passions, but as associating familiarly with men."‡

* E. Worcester, Genesis in the Light of Modern Knowledge, extracts from pages 49, 50, 51, 52.

† Yahwistic (Jehovistic) authors; i. e. J and JE.

‡ H. G. Mitchell, The World Before Abraham. N. Y., 1901.

Next will be given a couple of extracts in regard to the style of the Priestly Writer and the Jehovist which are more directly connected with the flood narrative.

"The Priestly Writer's account lacks scarcely anything. It is probably almost in the form in which it left its author's hand. When we compare the Priestly Writer's document with the Jehovist's, we see that in spirit and conception, as well as in execution, they are very different. Notwithstanding the Priestly Writer's peculiar dry style and his wearisome repetition of certain choice expressions, his ideas are lofty, though they are very cold. He tells us that Noah was a righteous man; further than that Noah remains a perfectly colorless character. God also is conceived in much the same manner. The Priestly Writer carefully avoids all such anthropomorphical expressions as that God 'repented,' 'was grieved at His heart,' that He 'shut the door after Noah,' or was pleased with the smell of the burning sacrifice. His Elohim is far removed from such human conduct and feeling. He is above the world and acts more from an abstract sense of justice than from passion or emotion of any sort.

"On the other hand, the Priestly Writer's style is very workmanlike. He makes a telling use of mathematics,* which gives quite a substantial air to his story."†

"The P passages present the characteristics of P and thus connect with the rest of that document. They fit

* The dimensions of the ark; the height of the flood; and its reckoning by months and by days of months.

† E. Worcester, Genesis in the Light of Modern Knowledge, pp. 357, 358.

into its scheme of exact chronology; they give a quasi-scientific account on a cosmic scale; the great deep is broken up below, and heaven opened above; there is no anthropomorphism; we have the divine name Elohim, and P's favorite formula, 'after his kind,' 'beast, cattle, creeping thing, fowl, bird,' etc.

"On the other hand, in J we have graphic popular narrative, e. g. the picturesque episode of the dove, anthropomorphism, the Lord, i. e. Jehovah, shuts up the ark; the divine name Jehovah, etc. In several instances the P paragraphs interrupt the connection between the J paragraphs, and visa versa. The phrases in small capitals* are assigned to the editor, because they do not seem to belong to their immediate context, and yet find no place in the other document."†

Said Ernest Renan in speaking of the Jehovist: "How is it possible that the author of such masterpieces should be unknown? The same question is now asked of the Homeric poems, of nearly all the grand epics, and in short of all the books produced from popular traditions. Books of this kind are of no special value to the first generations, well acquainted with the traditions they embody, and by the time the priceless character of the work is discovered the name of the author has disappeared."

* In this work leaning letters have been used.

† Bennett and Adeney, Biblical Introduction, N. Y., 1907, p. 30. (This text-book is used in some theological colleges.)

II.

THE TRADITIONAL VIEW.

TRADITIONAL views of the narratives in Genesis are those that have been commonly held all along by church people generally and taught from the pulpit, and used in religious literature and the Sunday school. Any view or belief concerning any particular narrative may remain traditional until disturbed by the advancement of knowledge, in which case some modification of belief may finally ensue as the outcome of discussion and controversy. This occurred repeatedly during the nineteenth century. In the early part of the century the belief was almost universally held that the earth is only about six thousand years old and had been created out of nothing in six literal days. No intelligent person now holds to that belief. Again, it was commonly held that the Deluge had been universal as to the surface of the earth and had covered the highest mountains everywhere on the globe; and that fossil shells and bones of extinct species of animals were an indisputable sort of evidence of its universality. The advancement made in physical knowledge caused a modification of the first view and an abandonment of the latter. And so with some other questions.

The following brief paragraphs from the little book, "The Bible and Criticism," before quoted, defines what are commonly called traditional views, but in relation to other points than those just cited:—"First as to the nature and history of the traditional views. They are views which, until the last quarter of the nineteenth century, were usually taken for granted in popular

preaching, teaching, and text-books. In very wide circles they are still taken for granted; the presuppositions of popular religion can only be changed very slowly. These views generally assume that if a personal name of a man is connected with a book the whole of that book in the form in which we now have it was written by that man. To take the controversies which have attracted most attention: it was supposed that Moses wrote the Pentateuch; David the Psalms; Solomon the whole of Proverbs, Ecclesiastes, and Canticles; Isaiah the whole of Isaiah, and Daniel [the book of] Daniel. As a rule those who were in any degree thoughtful and well-informed admitted that Moses did not write Deut. xxxiv. 5-12, and that the very principle they were applying prevented their ascribing to David the psalms which were not connected with his name. They also saw that the principle could not be applied to the books of Samuel.

"Moreover, the traditional views in some form or another were supposed to rest upon an authority which could not be called in question. All criticism was regarded as superfluous and impertinent. There seems to have been an impression that these views had been communicated by a definite and explicit revelation, or that they had been established beyond all doubt after a careful examination of full, express, and convincing evidence by Jewish and Christian scholars in the centuries before and after the beginning of the Christian Era. There is no foundation for either opinion."

It might be difficult to attempt to define any present day view of the account of the Deluge that could be called traditional, since on that subject a variety of

opinion is prevalent among the denominations and even with persons of the same denomination. Being considered as belonging to non-essential topics, church people appear to be left at liberty to form any opinions they chose on the subject. If we take the common religious literature of the day we find that it generally assumes that the flood story is historical, that it was an important event in the history of the human race which had an actual occurrence, that Noah, Shem, Ham and Japheth were real persons, and that Shem was the ancestor of the Hebrews. At the same time no attempt is made to give any date to the Deluge as was formerly done under the influence of Ussher's Biblical chronology. Perhaps the following statements may be put forward as being broadly maintained, if not defended, by the average sort of religious and Sunday school literature:

1. That the Biblical record of the Flood is an historical circumstance.
2. That the Flood covered such part of the earth only as suited God's purpose.
3. That it was caused by rain and the rising of the ocean over the land.
4. That Noah and his sons were real persons.
5. That Noah actually built an ark in which himself and family and some animals were saved.
6. That at least the white race are descended from Noah, if not all races.
7. That Moses wrote the narrative of the Flood.
8. That his account is confirmed by many different traditions.

There are some who are unwilling to give up the Mosaic authorship of the Pentateuch, but who, nevertheless, recognize the differences in style in different

parts of the story of the flood, and try to account for it by saying that Moses used different manuscripts. This presupposes that before the Israelites left Egypt some men among them were in the habit of writing annals of patriarchial times for family instruction. As has already been shown, the critical schools are satisfied that the remains of the manuscripts used in the compilation of the Pentateuch do not bear the marks of that age.

Although the old-time date of the Deluge, 2348 B. C., has been abandoned mainly on account of being so palpably at variance with archæological discovery, we fail to meet now with any attempts on the part of those who maintain the historicity of the flood narrative, to anticipate and try to meet critical questions and difficulties, such as are apt to arise in the minds of all well-read persons. Instead of meeting difficulties, the procedure seems to be to ignore and thus deliberately evade them. There seems to be a lack of candor, in this respect, such as characterized those who wrote before the middle of the last century on the subject of the Deluge and at a time when the progress of science was creating embarrassments in that connection. It is, we presume, a literary axiom that it is the duty of those who maintain any disputable view to produce data in support of their position; if they will not do this, their course only amounts to mere assertion for which no proof is advanced. Perhaps it should be said that the traditionalists assume the narrative is true because they find it in the Bible, and that this, according to their belief "contains no admixture of error," and so they comment from that standpoint. Still, they cannot but be well aware that other views are widely prevalent, and widespread contrary opinions invite notice.

Once every six years the International Sunday School Lessons begin over again at the first chapter of Genesis, the story of the Flood forming the fifth lesson. A recommencement was thus made in 1901, 1907 and 1913. It is customary to present the lesson for each week, as reached, with a commentary, in religious publications and in some newspapers, but they are more largely dealt with and in advance in monthly puplications and in quarterlies. The comments vary with the publications. The following is an extract from one of these commentaries and on the lesson concerning the Deluge, taken from a small relgious paper:

"Presumably the story os the flood was told by Noah and his sons to their descendants and written out from their account of it, and that it certainly appeared to them that the whole world was covered. That is all that we need to believe about it. Of course there cannot be any fault found with those who prefer to take the story as they find it, but these should not find fault with others who assume that the flood covered so much of the world as was necessary to accomplich God's purpose. The essential thing to be kept in mind in the study of the Bible is that its purpose is to reveal the character and ways and purposes of God.

"Apparantly there have been a number of great floods in the past history of the world. The British Isles were once part of the continent of Europe, but there came a time when the whole of that part of the globe sunk down into the sea and was completely submerged; and when it came up again there was a channel between Britain and the mainland. Caves have been found high up in the hills floored with sea gravel and under the gravel the remains of men and animals that lived before the land became the bottom of the sea and the gravel was deposited on it. Whether this or others similar bear

any relation to Noah's flood or not, is a matter of no consequence to us. Our business is to learn the lesson which Noah's flood was designed to teach."

We shall comment a little on what is here part of a Sunday School commentary. Of all the sentences in the foregoing extract that terminate with periods, only two commend themselves to our judgement and those are the ones at the close of each paragraph. The attempt apparantly made in two other sentences to discourage investigation and inquiry, is a more or less common propensity on the part of a certain class of theological writers. "It is easy to satisfy those who do not inquire," said a certain English canon of the last century. It is not so easy to satisfy those who do inquire, who raise critical questions, and make some use of their God-given reason. As for the rest, it is merely a tissue of presumptions, assertions and inaccurate statements, especially where the article tries to drag in matters that pertain to geology and prehistoric archæology.

The last are evidently derived from Sir J. W. Dawson's "Story of the Earth and Man," edition of 1887. Now Principal Dawson in matters pertaining to the Pleistocene Age (Glacial Pariod) and Prehistortc Man, lagged back behind contemporary geologists and in regard to the latter subject, like Hugh Miller before him, allowed his judgment to be biased by theological considerations. Dawson died November 19, 1899, but we cannot say to what extent he may have modified some of his views during the preceding twelve years. There are many theological writers, but of no particular eminence, who, in articles, pamphlets, etc., quote pas-

sages from books of "Bible geologists" who wrote at a time when certain subjects were still under investigation and unsettled, and when various conflicting theories were prevalent, and hold these up to their readers as "recent science." Anything written about the Glacial Period or concerning Prehistoric Man which antedates the year 1890, and by the kind of writers mentioned, would now be generally worthless. To show this we need only refer to two points in what has been quoted.

Lyell, Hugh Miller and other British geologists held the view that north of the Thames at least, the British Isles were deeply submerged by the sea during the Pleistocene or Quaternary Age. These submergence views have been abandoned by the later school of geologists because the marks and data once thought to indicate submergence can now be more naturally explained on other considerations. Limited submergences of coast lines are admitted so high only as old beaches and other marks prove the same. No geologist would endorse the view of the formation of the English Channel given in the extract. At a time when that part of Europe was more elevated than now, the Channel was excavated by river erosion and was likely the lower part of the basin of the Seine. It is what the school books speak of as an example of a "drowned valley," At least twice since its formation Pleistocene elevations united Britain with the continent.

Nor does the commentator do any better in citing things that belong to the province of prehistoric archæology. When the average theological writer does that he is almost sure to stumble. To say in this age of knowledge when the truth can be scientifically stated, that it is of no consequence whether prehistoric remains

have any relation to the Noachian deluge or not, is not a commendable statement to make. It looks much like trying to discourage the reading of works on Prehistoric Man. The caves referred to are Kents and Brixham caverns. The first has always been open during historic times, but the existence of the other was only revealed in 1858 by the caving in of the roof of one of its galleries, the openings having been sealed up by the sliding down of loose materials. The contents of Kents Cave were found to be breccia, stalagmite, cave earth, cinder band, another floor of stalagmite, and modern accumulations. In the Brixham cavern there was found many feet of fluvatile gravel at the bottom, with cave earth and stalagmite above that. No fossil remains were found in the gravel except at the top of the deposit. Ages ago the cave was part of an underground channel when the configuration of the surrounding country was different from what it is now, and the gravel was a deposit of a subterranean stream. When, owing to surface changes, the stream abandoned its channel, either cave earth or limey stalagmite could begin forming and man could occupy the cave.

Prehistoric archæology has made such advancement in the last twenty-five years that, in the case of new discoveries of implements and remains of ancient man in Europe, it is now possible, by the aid of various criteria, and with a tolerable degree of certainty, to assign to such remains both their chronological sequence and race type. In Lyell's time this was impossible because the succession of glacial and interglacial epochs had not been worked out, and there was prevalent much diversity of opinion among geologists as to the interpretetion to be placed upon the data in hand.

It is even possible to make the science retrospective so as to include most of the earlier discoveries. There is no evidence of any Pleistocene dipping of the land along the south coast of England exceeding sixty feet below present levels, and as the caverns mentioned are about one hundred feet above the Channel, it is doubtful whether the sea ever reached them in that age or since. The ancient relics of man found in these caves are classed as Chellean, Mousterian and Magdalenian, that is, they belong to the second interglacial epoch, Third Glacial stage and early part of the third interglacial epoch, all palæolithic in age and of a time long before man had attained to the use of metals.

In 1895 Dr. W. H. Green, who for fifty years was a professor at Princeton, published a book called "The Unity of Genesis," in opposition to what he calls the "divisive hypothesis" of the higher critics in regard to Genesis. Of similar tenor is Prof. Orr's book called "The Problem of the Old Testament." There have been many such works published in the last thirty years, all aiming to defend the traditional view against what such writers are apt to term the "assaults of the Higher Criticism," but the two works mentioned, which belong to Scribner's Popular Religious Series, appear to be as painstaking as any.

Dr. Green divides his book of 583 pages (a reprint dated 1910) into ten chapters, long or short, corresponding with the sections of Genesis beginning "These are the generations," etc. His book seems to be filled with as many arbitrary assumptions as he accuses the higher critics of. His "Generations of Noah" covers pages 65-130, but there is not a sentence in all this that at-

temps to meet and explain away anything arising from science or historical criticism; on the contrary in books of this kind such topics seem to be deliberately evaded, and the ground assumed that the narratives are historical. We presume, however, that both of these authors would have said that matters pertaining to science and historical criticism did not come within the scope of their works; yet while they broadly assert that the higher critics reject the early chapters of Genesis as unhistorical, they nevertheless make no effort to defend those chapters as in reality historical. The main effort of such writers is to prove, to their own satisfaction at least, that the critical school is wrong in assigning the Pentateuch in general to more than one writer.

Dr. Green's long chapter on Noah and the Flood is subdivided into a number of minor divisions bearing such heads as these: J Not Continuous—P Not Continuous —No Superfluous Repetitions—The Divine Names—No Discrepancies—Difference of Diction—Marks of P —Marks of J. The following is an example of his exegesis taken from the division on difference of diction or style observable between P and J.

"More especially is this the case when the partition is made on the basis of certain assumed characteristic differences. It is assumed at the start, we may suppose, that a given production is a composite one, formed by the combination of two pre-existing documents. Two sections respectively assigned to these documents are then compared, and the resulting differences noted as severally characteristic of one or the other. The documents are then made out in detail by the persistent application of the criteria thus furnished. Every paragraph, sentence, or clause, in which any of the one class or characteristics is found, is regularly and consistently assigned to the one

document, and with like regularity and consistency all, in which any of the other class of characteristics appear, is referred to the other document, the number of criteria growing as the work proceeds. When now the process is completed, each document will be found to have the assumed series of characteristics for the simple reason that it was throughout constructed by the critic himself upon that pattern. He is arguing in a circle, which of course returns upon itself. He proves the documents by the criteria, and the criteria by the documents; and these match as far as they do because they have been adjusted to one another with the utmost care. But the correspondence may be factitious after all. It may show the ingenuity of the operator, without establishing the objective reality of his conclusions. The documents which he fancies he has discovered may be purely a creation of his own, and never have had an independent existence."*

Prof. Orr's book is primarily a British publication first printed in London in 1906. His works seem to be fairly well known in this country, and in general, may be quoted as being opposed to the positions taken by the higher critics. But he says in his preface:

"Those who expect to find in [this work] a wholesale denunciation of critics and of everything that savours of criticism will be disappointed. The author is not of the opinion that much good is accomplished by the violent and indiscriminating assaults on the critics sometimes indulged in by very excellent men. The case which the critics present must be met in a calm, temperate, and scholarly way, if it is to be dealt with to the satisfaction of thoughtful Christian people. On the other hand, those who come to the book expecting to find in it agreement with the methods and results of the

* W. H. Green, The Unity of Genesis, pp. 95, 96.

reigning critical schools will probably be not less disappointed. The author has here no option."

We find little in Prof. Orr's book in relation to the flood chapters of Genesis, and as is usual with such writers, attention is fixed on the partition hypothesis of the critics and not on any of the numerous difficulties that the narrative furnishes, as it stands. The following extract may be given:

"The story of the flood, (Gen. vi.--ix.), which comes next, is the classical proof of the distinction of the two sources P and J; but we must claim it also as an illustration of the impossibility of separating the narrative into two independent histories. The substance of the story is allowed to be the same in both. 'In chaps. vii., viii.,' Kuenen says, 'two almost parallel narratives are combined into a single whole.' Since the discovery of the Babylonian account of the deluge, it is recognized that both writers drew from very old sources, and, moreover, that it needs both J and P to yield the complete parallel to the old Chaldean version. P, e. g. in Genesis, gives the measurements of the ark, but lacks the sending out of the birds—an essential feature in the Babylonian story. J has the birds, and also the sacrifice of Noah, which P, again, wants. In not a few passages the criteria curiously intermingle, and the services of the redactor have to be called freely into requisition to disintangle them. E. g., in chaps. vii. 7-10, 23, viii. 1, 2. where there is literary fusion of some kind. Above all, the parts of the narrative fit into each other in a way that makes it impossible to separate them."*

Footnote to above: "'Noah offers no sacrifice,' says Carpenter. But this is really a proof of the unity of the history, for the sacrifice—an essential part of the Babylonian story, which P must have known—is found in J."

* James Orr, The problem of the Old Testament, pp. 347, 348.

Both Professors Green and Orr and similar authors seem constantly to shake before the eyes of their readers the fact that on the critic's own showing, according to the partition hypothesis, neither P nor J are continuous, therefore the theory of several documents must be fallacious, or that they desired to create that impression. What critics really maintain that we have in the flood narrative all that P or J ever wrote on the subject? None that we know of. Doubtless the episodes of the sending out of the birds and the sacrifice made by Noah were in both documents but those given by J were preferred by the compiler as being the best versions. On the whole, more seems to have been sacrificed that belonged to J's version than the other. As if not to be unfair, these writers occasionally admit in the text or in footnotes that the critics get over the "difficulties" (as if they really were difficulties) of omissions of the kind mentioned, by claiming that there was sacrifice of one version in favor of another.—Said The Outlook in a notice of Dr. Green's book:

"Professor Green's analysis has failed to shake our conviction that the book of Genesis was composed, like the Diatessaron of Tatian, of preexisting accounts, which have been skilfully woven together, not without leaving marks of the joiner's art. But he who desires to know what the ablest and most thorough scholarship in either England or America can say in opposition to this opinion will find it in Dr. Green's volume."

III.

THE SONS OF GOD AND DAUGHTERS OF MEN.

If we were to look into any of the old commentaries, and in relation to the sixth chapter of Genesis, it would probably be found that verses 1--8 formed a difficult passage to try to explain satisfactorily. This is on account of the incongruous nature of the passage, so different from anything elsewhere met with in the Old Testament. The commentators hardly doubted that the writers of Jude (verse 6) and II Peter (ii. 4) had this passage in mind when they wrote those epistles. Aside from this it was found written in Matt. xxii. 30 that angels "neither marry nor are given in marriage, but are as the angels of God in heaven," which added to the complexity of the matter. Angels being regarded as ethereal beings who were capable of making themselves visible or invisible at will, their assumption of human form, seizing upon the daughters of men for wives and begetting children, seemed to the commentators very improbable; they were therefore disposed to interpret the passage as meaning that certain pious descendants of Seth had fallen away and took wives from among the ungodly posterity of Cain. Some even suggested that the giants of the narrative were not so much men of large stature as chieftains who were monsters in wickedness.

The Jehovist appears to have introduced this tale into his document to account for the supposed wickedness of men and as introductory to the story of the Flood. He probably meant some order of angels and nothing else. We may be sure that the Priestly Writer would

not have tolerated such an episode in his document. We shall next introduce here some extracts that present opposite views of the passage in question.

"The first definite attempt to interpret our narrative, so far as I am aware, is in the apocraphel book of Enoch, [written about 125 B. C.] The passage begins, like our chapter, with the discovery on the part of the angels of the beauty of the daughters of men. The angels, filled with admiration for mortal maidens, resolve to marry them. Sernjuza, their chief, hesitates. He says: 'I am afraid that you do not intend to carry out this act, and that I alone will have to pay the penalty of this great sin.' Two hundred others, however, bind themselves with an oath to do it. Accordingly, the whole brood sweeps down on Mount Hermon. They go up and down on the earth and make choice of those young women who please them best. The angels teach them all kinds of magic arts and incantations."

"It is very plain that St. Jude had this story before him and followed it almost word for word when he wrote, 'And the angels which kept not their first estate, but left their own habitation, he hath reserved in everlasting chains under darkness, until the judgment of the last day.'"

"In the second epistle ascribed to St. Peter, it is evident that the author had the same event in mind when he says: 'If God spared not the angels that sinned, but cast them down to hell and delivered them into chains of darkness to be reserved unto judgment.' The doctrine of the Fall of the Angels, therefore, appears to rest on the strange story of Genesis.

"Without going any further we can see that the story of the 'sons of God' and the 'daughters of men' was a popular tale in the century before Christ and in the century after Christ. It is found in the book of Jubilees, in Philo Judæus, and in Josephus. All these authors, as well as many of the church Fathers of the first three centuries, understood by the 'sons

of God' angels, and nothing else. It is even possible that the Book of Enoch may contain some old Hebrew traditions which were allowed to fall from Genesis 'Sons of God' is a name often appled to angels in the Old Testament, especially in Job and the Psalms."

"Granting that the sons of God are angelic beings, or still better, spiritual beings, superior to man, we see at once that we are dealing with a very peculiar story, which resembles the myths of the Gentiles much more than the religion of the Old Testament, with its clean-cut distinction between God and man. In short, the giants are conceived as a sort of intermediate race between gods and men, and it was for the sake of destroying this proud and unnatural brood that the Flood was sent. Among the Greeks and Romans the habit of tracing the descent of noble families from gods and goddesses was very common. Plato goes so far as to say that all heroes are demigods, born of the love of a god for a mortal woman or of a goddess for a mortal man. Such an idea could have arisen among the Hebrews only at an early age, and we may be sure that this story is very old. It appears in the document of the Jehovist, but he certainly did not originate it. On the contrary, it is a tale opposed to his whole mode of thought, as we can infer from the way he hurries over it, stripping it doubtless of many of its mythological features. From the description of the giants and heroes of old as celebrated men—men of renown—it is plain that they were popular characters of whom the people had many stories to tell."*

Dr. Green devotes all between pages 51 and 61 and more of his book to a discussion of this subject. In his dogmatic, arbitrary way, as will be seen from the extract that follows, he denies or tries to expain away

* E. Worcester, Genesis in the Light of Modern Knowledge; Extracts, pp. 305, 306, 307. 308, 309.

the view of this passage taken by writers like the one last quoted. When two professedly Christian authors so radically disagree, who is to decide? In theology and Biblical interpretation divergence of views have always been common; but in this case we see no points of contact.

"The sons of God are not angels nor demigods, whose intermarriage with the daughters of men brought forth a race of monsters or superhuman beings. This purely mythological conceit was foisted upon the passage in certain apocryphal books like the book of Enoch; also by Philo and Josephus, who were misled by the analogy of ancient heathen fables. But it was repelled by the great body of Jewish and Christian interpreters from the earliest periods, though it has been taken up again by a number of modern scholars. It is assumed by them that a transgression of angels is here spoken of, though the existence of angels has not been before mentioned nor in any way referred to in the previous part of the book of Genesis. This view has no sanction whatever in Scripture. Jude, vs. 6, 7, and 2 Pet. ii 4 have been tortured into sustaining it; but they contain no reference to this passage whatever. And there is no analogy anywhere in the Bible for the adoption by the sacred writers of mythological notions in general, or for the idea in particular of the intermarriage of angels and women. Sexual relations are nowhere in Scripture attributed to superior beings. There is no suggestion that angels are married or are given in marriage; the contrary is expressly declared (Matt. xxii. 30). Male and female deities have no place in the Bible, except as a heathen notion which is uniformly reprobated. The Hebrew language does not even possess a word for 'goddess.' The whole conception of sexual life, as connected with God or angels, is absolutely foreign to Hebrew thought, and for that reason cannot be supposed to be countenanced here.

"The sole foundation for this mistaken interpretation is the

allegation that 'sons of God' must, according to Scriptural usage, mean 'angels;' which, however, is not the case. Even if that were the more usual and obvious interpretation of the phrase, which it is not, the connection in which it stands would compel us to seek a different meaning for it here, if that were possible, and one which would be compatible with marriage. 'Sons of God' is a poetic designation of angels occurring three times in the book of Job; and a like expression is found twice in the Psalms in the same sense."*

Dr. Green appears to insist that the passage under discussion means the intermarriage of a godly with an ungodly race, but we do not find that he attempts to specify who either race were. If the writers of the epistles of II Peter and Jude did not have this episode in mind, to what did they refer? Dr. Green does not attempt to explain. It is commonly held that these two writers, whoever they were, quoted from the book of Enoch; for the punishment of the angels, long delayed, corresponds closely in all three writings. The tale in the book of Enoch was either founded directly upon Gen. vi. 1--8, or, it may be, upon an ancient version of which the account in Genesis is only a brief abstract. According to the canons of historical criticism the moment that supernatural beings are introduced into a narrative it ceases to be historical and at once becomes legendary and mythological.

There has been much diversity of opinion among theological writers as to the meaning of the 120 years spoken of in verse 3. Two views have commonly been prevalent, one that human life thereafter should not exceed that number of years, and the other, that the

* W. H. Green, The Unity of Genesis, pp. 53, 54.

specified term is in reference to the then future limit of the antediluvian world, during which the wickedness of man was to be endured. The former view is contradicted by the reputed ages of patriarchal persons, who were born after the Flood, e. g. Terah 205; Abraham 175; Sarah, his wife, 127; Isaac 180; and Jacob 147 years old. Here the contradiction, if contradiction it is, lies between the Jehovist and the Priestly Writer. E. Worcester takes the first view mentioned, and Dr. Green the latter.

During the first half of the last century and even longer, there existed in this country among writers of popular literature a slavish adherence to Ussher's system of Biblical chronology. James Ussher was born in Dublin, Ireland, in 1580. He was made archbishop of Armagh in 1624 and was the author of several theological works. He chanced to be at Oxford, England, when the Puritan Revolution broke out and never saw his native country again, but died in England in 1656. His system of Biblical chronology was formulated in 1651, but as there were many chronological systems known to the learned, Ussher's was never fully accepted by them. However, about the year 1701 it began to be used in the top margins of English family bibles and in that way it became stamped upon the minds of English speaking people like some religious dogma and so continued until shown to be totally inadequate in the last quarter of the nineteenth century, by the advancement of knowledge.

According to the Hebrew version of the Bible the Flood took place 1656 years after the Creation, and which Usshers,s chronology made to have occurred 2548 years B. C. According to the Samaritan Pentateuch the

interval between the Creation and Flood was only 1307 years; other codices 2242 to 2262 years, and Josephus 2256 years. The worthlessness of chronologies which vary 955 years is readily apparent. Dr. Green makes the following remarks on primitive chronology as deduced from the early genealogies:

"It should be remarked here that no computation of time is ever built in the Bible upon this or any other genealogy. There is no summation of the years from Adam to Noah, or from Noah to Abraham, as there is of the abode in Egypt (Ex. xii. 40), or of the period from the exodus to the building of the temple (1 Kin. vi. 1). And as the received chronologies and the generally accepted date of the flood and of the creation of the world are derived from computations based on these genealogies, it ought to be remembered that this is a very precarious mode of reckoning. This genealogy could only afford a safe estimate of time on the assumption that no links are missing and that every name in the line of descent has been recorded. The analogy of other biblical genealogies is decidedly against it. Very commonly unimportant names are omitted. No one has a right, therefore, to denominate a primeval chronology so constructed from the biblical chronology and set it in opposition to the deductions of science, and thence conclude that there is a conflict between the Bible and science."*

Both the Jehovist and the Priestly Writer appear from what have been preserved of their respective narratives to give some idea of the duration of the flood. It is stated by critics that the Jehovist makes the flood to have lasted not over 61 days and the Priestly Writer a year and some days over. Both calculations, based

* W. H. Green, The Unity of Genesis, pp. 49, 50.

upon the numbers and days of the month given in either account may be somewhat complex. First as to the Jehovist. He makes the downpour of rain to have continued 40 days and nights, at the end of which time the flood is presumably supposed to have reached its height; then at that time the raven is sent forth from the ark. The interval to the sending out of the dove is not stated in the text but since the Jehovist here made use of periods of seven days he is supposed to have meant that number of days though not distinctly expressed. Then 7 days after the first sending out of the dove the bird was sent forth a second time and returned at evening with the olive leaf, a sign that the waters had nearly subsided. This made 54 days, but Noah remained in the ark yet 7 other days, before coming forth from the ark, making a total of 61 days. This summation is nearer the short Babylonian reckoning than that of the Priestly Writer. But it is held by some writers that the forty days mentioned in chap. viii. 6 at the end of which Noah sent forth the raven, should be understood as an additional forty days to the previously mentioned forty days and nights rain and that these additional forty days are to be allowed for the partial subsidence of the flood. This looks reasonable enough and in that case it would increase the Jehovist's estimate of the duration of the flood to 101 days.

"If the narrative be taken as a whole there need be no discrepancy. P's longer period is of itself more in keeping with the magnitude of the catastrophe, even as described by J; and the assumption of the critics that J meant to confine the actual flood within forty days can be shown by the text itself to be unwarrantable. For (1) forty days is expressly given by

J as the period when 'the rain was upon the earth', i. e. when the cataclysm was in process (chap. vii. 12, 17); and (2) is separated by a second forty days (chap. viii. 6) by the mention of an interval of gradual subsidence of the waters—'the waters returned from off the earth continually' (chap. viii. 2, 3; also J.) —which in P in the same verse dates at one hundred and fifty days. J's second forty days, therefore, with the three weeks in sending out the birds equate with P's interval of two months between chap. viii. 5 and chap. viii. 13, which covers the same period, and the discrepancy disappears."*

There is a kind of exegesis whereiu those who oppose the higher critical methods strain the text into meaning about what they wish it to mean and Dr. Geeen was notably an exegete of this sort. Prof. Orr, above quoted, remarked that he would not be disposed to go as far as Dr. Green in regard to some things along the lines here mentioned. But in the flood narrative we manifestly have two different writers to reckon with, each of whom had a different style, and somewhat different ideas as to its details and duration and who wrote at widely separated times. Nor did the editors who blended the two narratives into a mosaic whole seem to have cared to try to harmonize every minor discrepancy. Each separate writer's portion of the narrative, therefore, should be taken as it stands and as each evidently meant that it should be understood.

Next comes the longer reckoniug of the Priestly Writer. Here, like the measure of the cubit, the exact result may be rendered a little doubtful unless we are satisfied as to what calendar he reckoned by, but in either case the variation in days will not amount to

* James Orr, The Problem of the Old Testament, p. 350.

much. The estimate of the Priestly Writer depends upon whether his reckoning was by lunar months or the reckoning that made the year to consist of 365 days or the solar year. Then the "one hundred and fifty days" of this writer also introduces a disturbing factor into the calculation based on the months named.

"The early Hebrews employed the lunar month of 29 days, 12 hours and 44 minutes. Twelve such months contained 354 days; adding eleven days we have 365 days. The author therefore evidently wishes to show that the Flood lasted a full solar year. But with this supposition his other calculations of time do not agree. Between the seventeenth day of the second month, when Noah entered the ark, and the seventeenth day of the seventh month, when the ark rested on Ararat, exactly five months elapsed. If, as we suppose, these are lunar months, they would consist of 147 or 148 days. On the contrary, the author says distinctly that they were one hundred and fifty days, or even more than one hundred and fifty days, if we allow a little time for the settling of the waters before the ark grounded. In this case, after all, the author had in mind a month of thirty days, not the old lunar month. This is an inconsistency, or perhaps we had better say a difficulty. The 354 x 11—365 days is very attractive as assigning a full solar year to the Flood; while on the other hand, 360 x 11—371 or 365 x 11—376, has no significance."

"Dillman rightly admits that we have here two inconsistent calculations, probably from two different hands. One represents the Flood as las ing for a full solar year (354 x 11 days). The other calculation represents the Flood as 150 days in coming and doubtless as 150 days in going; or, as lasting 300 days, i. e. ten months of thirty days. Perhaps this writer originally added two months for the drying of the earth, which would round out a year of 360 days. It will be noticed that

the introduction of the one hundred and fifty days, which caused so much disturbance, is not necessary for the calculation of the Flood, which rests on months and days of months. If the one hundred days were added by the editor, it is strange that he did not harmonize them better with the forty days of the Jehovist.

"As for the time of year when the Flood began, we are told that it began in the second month on the seventeenth day of the month. The old Hebrew calendar dated the beginning of the year from the autumn. It is true, in the later parts of the Pentateuch, the Priestly Writer states that the year began in the spring with the month Nisan (April), but he represents that change as introdnced by Moses (Ex. xii. 2), so that we may be sure he would not commit the mistake of regarding this system as in vogue at the time of the Flood. With him, therefore, the year began with Tishri (roughly, October), and the second month would be Marcheschvan, or November, when the heavy rains of Palestine began to fall. Why the seventeenth day of the month was selected and not the fifteenth, on which the full moon falls, has not been discovered."*

* E. Worcester, Genesis in the Light of Modern Knowledge, pp. 349—352. In several places in the foregoing extracts written numbers in the copy before us have here been changed to figures. The meaning of '360' impresses the mind more readily than when written or printed as three hundred and sixty. The author, however, used numerals at two or three points within the limits above quoted.

IV.

MOUNT ARARAT.

The Mount Ararat of the maps lies on the most northwestern confines of Persian territory, the Russian, but Asiatic, province of Caucassia immediateiy north and the Turkish province of Armenia immediately to the east. Its situation is in about 39 degrees North Latitude, in this country closely corresponding with Cape May, New Jersey. It is about equi-distant between the southern end of the Caspian Sea and eastern end of the Black Sea. The country adjacent is a plateau, itself about 3,000 feet above sea level, and from this elevation the mountain towers to an altitude of 17,112 feet above sea level, the culminating point of a mountainous region. Ararat is a volcanic cone and its lofty height carries its summit far into the region of perpetual snow and ice with which the upper portion of the mountain doubtless has been covered, like the Alps, since the last Glacial epoch, on the supposition that the cone has since remained quiescent. On one side is Little Ararat, a more perfect but less lofty cone than the other.

In former times the popular belief was to the effect that the ark had grounded on the very summit of Mount Ararat, a natural inference, perhaps, from the text, "in the tenth month, on the first day of the month, were the tops of the mountains seen," that is, several weeks after the ark came to a rest "upon the mountains of Ararat." It was not until the summer of 1829 that any European traveler succeeded in reaching the summit and previously it was the common belief of the Arme-

nians that such ascent was impossible. Later in the century the same feat was occasionally accomplished by other travelers. One who ascended Ararat in 1868 declared that no mountain he had ever seen made on him the impression of the "Armenian Giant," whose sides for 9,000 feet were covered with snow. Now when some definite knowledge of the Ararat of the maps began to be acquired, doubts began to be expressed in commentaries and other literature that had any occasion to treat of Noah's flood, whether or not this could be the mountain on which the ark rested, and much discussion was elicited.

An abstract of a lecture, so far as it concerns Mount Ararat, delivered by Captain Bertram Dickson before the Royal Geographical Society, in 1909, has been quoted in popular literature, a part of which follows.

"The country east of the Tigris was known to the ancient Assyrians as the mountains of Nari, and at other times as the Niphates and the mountains of Urartu, from which comes the name Ararat. The Bible historian took the account of the ark resting on Ararat from the Chaldean legend, which made it rest on the mountain of Urartu; while local traditions, Christian, Moslem and Yezid alike make its restsng place Jebel Judi, a striking sheer rocky wall of 7,000 feet which frowns over Mesopotamia.

"Common sense also suggested that with a subsiding flood in the plains, a boat would most probably run aground on the high ridge at the edge of the plain than on a solitary peak miles from the plains with many high ridges intervening. The lecturer thought himself that the local tradition had the greater element of truth.

There is a large ziarat (sanctuary) at the top of Jebel Judi, where every year in August is held a great fete, attended by

thousands of energetic Moslems, Christians and Yezidis, who climb the steepest of trails, or 7,000 feet in the terrific summer's heat to do homage to Noah.

"The mountain seems to have been held sacred at all times, and certainly it has a wonderful fascination about it, with its high presipices, and jagged, tangled crags watching over the vast Mesopotamian plains."

Edward Hitchcock was born in Deerfield, Mass., in 1793 and for many years in his later life he held the position of president of Amherst College in his native state. In 1830 he was appointed state geologist of Massachusetts. In 1840 he published a text-book of Geology, which in the next twenty years went through many editions and was the principal predecessor of Dana's "Manual of Geology," which was first issued in 1862. Hitchcock was especially interested in the relations of the developing science of his time to Religion, or more properly speaking, to long established theological dogmas. Besides occasional sketches and lyceum and college lectures, he published a book or two on the subject, one of which he called "The Religion of Geology." Like Hugh Miller's "Testimony of the Rocks" it was an attempt to harmonize the indisputable facts of science with the apparent teachings of the Bible and to allay popular prejudices. The mature life of both authors was contemporary with the controversy over the age of the earth, with which the story of the flood became mixed up as a subordinate issue. In the book mentioned, Hitchcock devotes a chapter to various phases of the Deluge question. The extract that follows expresses his opinion in regard to the resting place of the ark, a narrative that he took to be historical.

"We are here met by a serious objection to the hypothesis which gives only a limited extent to the deluge. If the present Mount Ararat, in Armenia, is the mountain on which the ark first rested, a deluge which covered its top must, by its flux and reflux, have overspread nearly all other portions of the globe, for that mountain rises seventeen thousand feet above the ocean. But we are informed by Jerome, that the name Ararat was given generally to the mountains of Armenia; (indeed, that is the meaning of the name;) and long before geology existed, Shuckford suggested that some spot farther east corresponds better with the Scriptural account of the place where the ark rested. For it is said of the families of the sons of Noah, that, as they journeyed from the east, they found a plain in the land of Shinar. Now, Shinar, or Babylonia, lies nearly south of the Armenian Ararat, and the probability, therefore, is, that the true Ararat, from whose vicinity the descendants of Noah probably emigrated, lay much farther to the south. Again, if the ark rested upon the present Ararat, it is impossible, except by a miracle, that those who came out of it could have reached the plain below; for so exceedingly difficult of access is it, that it is doubtful whether, since the deluge, any one ever succeeded in reaching its summit, till the year 1829. That the almost universal tradition of Eastern nations should have fixed upon that mountain as the resting place of the ark is not strange, considering that there is no other mountain in all Asia so striking to behold.

"But upon the whole, the probability is strong that some other elevation, less lofty and steep, was the radiating point of the postdiluvian races of man and other animals. The fact of Noah's sending out a dove from the ark which came back in the evening with an olive leaf in her mouth, strengthens the preceding view. For neither upon the present Ararat, nor around it, does the olive grow, because it is too cold. Indeed, all its upper part is covered with perpetual ice. But if the

Ararat of Scripture lay nearer the tropics, the olive might find upon it a congenial spot "*

Sir Walter Raleigh, in his History of the World, did not regard Mount Ararat as the resting place of the ark but placed it far within the depressed area which contains the Caspian and Aral seas, "certainly not without some show of reason," remarks Hugh Miller.

With writers who do not accept the flood story as historical, or at best, who regard the legend as a variable tradition that was based in the first place upon some purely physical calamity to the early dwellers of the Chaldean plains, also discuss the supposed resting place of the ark. With them the question is, what special mountain, if any, to the north or northeast of the Persian Gulf, Hebrew and Babylonian writers had in mind in their versions of the flood narrative? Or was it only a mythical mountain conjectured to exist somewhere to the northward. The Priestly Writer, precise as he often is in regard to details, does not specify any particular mountain peak, but rather uses a general term, "the mountains of Ararat."

Mount Ararat is said to be an extinct volcano. All of the ice on high mountains is formed from snow that has become changed to glaciers. The annual accumulations of snow and ice above are gradually dissipated around the snow line below, by melting glaciers, snow slides or avalanches, or sometimes as shaken down by earthquakes, which latter happened among the mountains of Armenia in 1840.

* E. Hitchcock, The Religion of Geology, Boston, 1851, pp. 139-40

V.

SOME OLD-TIME VIEWS OF THE DELUGE.

Before giving some account of the various opinions that have been held at different periods in the last two hundred years and more respecting the Deluge, and in English speaking countries, say from the time of John Milton onwards, we may first stop to enquire what were the views held by the Hebrew writers themselves in regard to the tradition that had came down to them from earlier generations. No doubt each believed the common tradition; yet probably both writers were aware that it was current in variable versions. Each of the two writers seem to have moulded the story according to his own judgment. The later Priestly Writer had the JE redaction as the basis of his own narratives but he was also acquainted with one or more Babylonian versions. His moulding of the story is with somewhat more detail than the Jehovist, but while his document probably contained the episode of the sending out of the birds, we may doubt his tolerance of the account of Noah's sacrifice.

The geographical knowledge of the ancient Hebrews was comparatively limited, comprising for the most part some ideas of countries in western Asia, the islands of the Mediterranean Sea adjacent to the coast of Asia Minor, and of Egypt and Libya, with occasional vague reports of more distant regions. The earth is a flat plane, its surface corrugated with hills and mountains. Above the vaulted dome of the sky exists an ocean of water below which the heavenly bodies—sun, moon and

stars—revolved in their courses attendant upon the earth. Below the plane of the earth there is a subterranean ocean like the one above the sky, and below that still is a cavernous world called Sheol, the abode of spirits, in which the fallen angels are imprisoned. To a greater or less extent this primitive cosmogony was derived from the Babylonians, indirectly, perhaps, through the Canaanites who used the Babylonian cuneiform writing to some extent about the time of the Exodus. The Jehovist took no account of the "fountains of the deep," but on the other hand, it can be seen from his narratives of the creation and flood that the Priestly Writer was somewhat imbued with the Babylonian cosmogony, which he purified of its polytheistic cast. In the account of the creation this writer undoubtedly refers to the seas and oceans when he speaks of the waters under the firmament, but in his part of the flood story where he speaks of the fountains of the deep being broken up, he seems to have in mind the abyss or gulf of waters that the ancient Hebrews and Babylonians supposed to exist deep under the surface of the earth. In his creation narrative again, his reference to the waters above the firmament may be a modification of the ancient celestial ocean view and merely refer to atmospheric waters, as commonly interpreted.

In his time, Hitchcock candidly acknowledged that some parts of the Bible were influenced by the cosmical views just mentioned. In the book already quoted he says: "It was the opinion of the ancients that the earth, at a certain height, was surrounded by a transparent hollow sphere of solid matter, which they called the firmament. When rain descended they supposed

it was through windows or holes, made in this crystaline curtain suspended in mid-heaven. To these notions the language of the Bible is frequently conformed."*

"So the Priestly Writer explains the coming of the Flood strictly in accordance with his cosmical views laid down in his first chapter of Genesis. The flood waters came from two sources: first, from the great abyss (Tehom) beneath the earth, whose depths, confined by God at creation, suddenly burst their bonds. These fountains, rising through subterranean channels, overwhelm the earth, as they did before Elohim separated them from the dry land. Secondly, the heavenly reservoirs contribute their quota. Elohim opens the windows of the firmament which holds the upper waters in check, and lets them pour down in rain upon the earth. In short, the world returns to chaos, and the coming of the flood is far more powerfully depicted than by the Jehovist's forty days of rain."†

We have now gotten some insight into the cosmical views of the Priestly Writer and those of the Jehovist may in some measure be inferred from the second account of creation and his naive story of the Garden of Eden. The known world of these writers seems, in the main, those countries then occupied by the white race and not all even of these. Their world, then, was comparatively limited. Whatever might be known of the mountains of Armenia, they were doubtless considered to be the highest in the world. Their knowledge of animal life was also limited, and with an ark of the dimensions calculated, it was supposed to be large enough to hold

* E. Hitchcock, The Religion of Geology, p. 9.

† E. Worcester, Genesis in the Light of Modern Knowledge, pp. 339, 340.

specimens of them all, including provision for them. As for the carnivorous kind, it is to be inferred that the writers believed that, for the time being they must have subsisted upon vegetable food. It is evident, too, that they believed the flood to have been universal over the limited and flatly extended earth of their conceptions and that the animal world and all people was such as had descended directly from what had been saved in the ark. Of course no provision was made for aquatic forms of life, as it was supposed that these could not perish in a flood. It is easy to infer also that the Priestly Writer held the view that the ark had grounded upon the top of one of the highest mountains of the world, since he allowed about ten weeks for the waters sufficiently to subside to lay bare the tops of the nearest lower mountains. Now we shall find as we follow up the changeful history of opinions in respect to the story of the flood, that views derived from it and also from the first chapters of Genesis, continued to influence the popular masses long into the nineteenth century; that certain views so derived began coming into collision with advancing modern knowledge, inaugurating a period of resistance, but ending at last, if the case became urgent as in Geology, with some makeshift of a compromise called a "reconciliation." In the middle decades of the last century this, too, had to be effected in regard to the common belief that the Deluge had been universal as to the surface of the earth. This controversy will be dealt with in a future section.

The earlier controversies of the pre-scientific era wherein the Deluge was concerned, sprang up over the nature of fossils, and inaugurated what might be called

the diluvian theory of fossil remains, or the view that fossil bones and shells are relics of the Noachian deluge. Some of the old Greek and Roman writers, such as Strabo, (about A. D. 50) held tolerably correct views of the matter, and so also did some of the later Saracen writers under the Mahommedan rule in Spain. Among early Christian writers the last flicker of reason is said to have died out with Tertullian who wrote about A. D. 200. Discussions over the nature of fossil remains in Christian countries now had to await the revival of learning. Meanwhile it was more or less the belief of many that the Deluge must have left some traces on the earth. Thus, Martin Luther suggested that if search was made about the iron mines of Saxony, where excavations were in progress, some such traces might be found.

Among the Schoolmen of the Middle Ages a question much discussed in relation to fossil shells was whether they were "sports of nature" or had once been living organisms. Their crude explanations are well known but as Theology was then dominant nnd intolerant of any views that might be called heresy, their opinions may not always have been sincere. Says Hitchcock: "At the beginning of the eighteenth century numerous theologians in England, France, Germany and Italy, engaged eagerly in the controversy respecting organic remains. The point which they discussed with the greatest zeal, was the connection of fossils with the deluge of Noah. That these were all deposited by that event, was for more than a century the prevailing doctrine, which was maintained with great assurance; and a denial of it regarded as nearly equivalent to a denial of the whole Bible."

Speaking now of England in especial, the wars of Cromwell in the middle of the seventeenth century appear to have stimulated the intellect of the nation. Following the Restoration there came a period of literary activity. It was the age of Milton and Bunyan, and other noted British writers. During the last half of that century some writers began paying attention to natural history, and so the old question of the Schoolmen concerning fossils began to be revived. The most of these writers decided that fossils were not sports of nature, but had really contained living organisms. It must be remembered that it was marine petrifactions, usually of shell-fish, found in the soil inland sometimes many miles from the sea, that attracted the most notice and stimulated curiosity. And the opinion, not then wholly new, became quite generally established that fossil remains were relics of the Noachian deluge. But Robert Hooke, an English physician whose posthumous papers were published in 1668, denied that fossils had any connection with the Deluge. Ray, a naturalist, who published a work in 1692, held similar views.

About the close of that century and later a number of "theories of the earth" were published which gave full rein to the imagination. As noted as any of them was Burnett's "Sacred Theory of the Earth," published in 1684. These visionary works made much out of the Deluge, holding the view that the present world is but the shattered wreck of a once magnificent original that had been ruined by the Fall of Man and still further defaced by the Flood. These works abounded in terrible pictures and some of them continued popular long after their absurdities had become apparent to the

learned. This has ever been repeated in regard to the advancement of knowledge, the uneducated masses, as a whole, always being the last to be convinced of the validity of some new and rational view.

It having been decided quite generally by English naturalists that fossils had been living organisms, it soon stirred up another question. Fossil shells found in the soil of the fields or on high hills, more or less identical with those of the sea-shore, might well be accounted for by the Deluge, but how came fossils to be embedded in thick limestone strata? The world was supposedly only about 6,000 years old and the rocks created much as they now are in an instant of time. To get over this difficulty, one, Woodward, a professor in medicine, resorted to a sweeping hypothesis. In a work published in 1695 he maintained that at the time of the Deluge the whole terrestrial globe had been dissolved, the comminuted materials settling in the water according to their specific gravity, later hardening into various rock strata.

The next century was rife with all sorts of theories and speculations in various fields of knowledge, yet no great advance was made because men had not learned closely to investigate Nature. Until that spirit could be born and data accumulated, no real advance in science was possible. Hence the diluvian theory was not overthrown in English speaking conutries for upward of 150 years after the time of the writers mentioned. We shall find it still in evidence being maintained, but complicated with another question, the extent of the Deluge, through more than the first half of the nineteenth century. It should be observed that the decision that fossils had been living organisms was an advance

over the petrified notions of the Schoolmen. It has been said that had our most astute geologists lived in the time of the theorists mentioned, they could have given no better explanation of fossil remains than they did, for they would have lacked the physical data upon which to have based a more correct view.

Perhaps Scheuchzer, a naturalist of Zurich, did more to perpetuate the diluvian theory in the eighteenth century than any other writer. He paid considerable attention to fossils, more to vegetal than animal, which he attributed to the Deluge. He did not accept the extravagant views of the English writers. He recognized the tropical character of some of his specimens and doubted if any were really extinct. He was, as an authority, to the eighteenth century much what Cuvier and Humboldt were to the first half of the nineteenth century. His work on fossils was published in 1709 and although he died in 1733 his authority was hardly questioned until the last decade of the century.

In 1724 there was started the Physico-Theological school, founded by one, Hutchinson, a pupil of Woodward, whose writers evinced a dogmatic and intolerant spirit. These writers showed a disposition to merge what little of science there was then in the world with Theology in one general system of philosophy. This school exercised a pernicious influence on English thought and literature for more than a century. As late as 1761 Catcott, who belonged to the Hutchinsonian school published a work exclusively devoted to the Deluge. While he wrote sensibly of diluvial currents and some other matters he nevertheless maintained the dissolution of the earth at the time of the Deluge. For this view he tried to adduce Scriptural support, citing

various texts, interspersed with interpretations of his own, for example: "God uttered his voice, the earth melted, [flowed, dissolved to atoms.]"

The writings of Scheuchzer and others stimulated many persons to begin making collections of fossils for themselves, and what threatened the permanence of the dominant theory was the fact that some began instituting comparisons between the remains they had collected and living species. That was laying the basis for the development of the science of Comparative Anatomy, before which the diluvian theory could not stand. Quite generally this theory continued to vitiate publications on the subject all through that century.

Between 1775 and the end of the first decade of the nineteenth century, Geology began struggling into existence as a new science. At first it was regarded as part of the speculations of that century. In part it grew out of the continued published discussions over fossils and the fossiliferous strata; but more than that the science developed out of speculations on the origin of mineral ores theorized over in mining schools.

In 1804 Schlotheim in Germany published a work on fossils in which he laid down new principles. Impressed with a great age for the earth as already maintained by the few geologists of the time, he held that fossils are generally extinct forms of organic life and had belonged to a former (or Pre-Adamite) world. This Vortrage or former world view was taken up by other German writers and with the publications of Cuvier and Brogniart in the early part of the nineteenth century, and development by Cuvier of Comparative Anatomy, the old theory of fossil remains collapsed in France and Germany so far as the learned were con-

cerned. But this did not so readily affect the early geologists of Great Britain, least of all various writers in America. In science, however, the collapse of a long maintained false theory dates from the time that it ceases to be maintained by eminent writers of some representative nation.

Turning again to Geology, it may be remarked that so long as the theologians saw in these discussions only philosophical speculations, geologists were not likely to be attacked. But to maintain that the discussions were deductions based upon physical facts and capable of verification by observation, was altogether a different matter. The theologians saw that this view appeared to call in question the first page of the Bible as they understood it. In 1749 the French naturalist, Buffon, following Leibnitz, made an attempt to state a few plain geological principles; but his views offended the faculty of the Sorbonne at Paris, who compelled him ignomiously to publish a recantation. In England about 1785 the poet Cowper is found sounding a note of alarm in his verse. Then in 1804, Chalmers, at the time a young man of twenty-five years of age, is found trying to allay the prejudices of a Scotch audience by asserting: "This is a false alarm; the writings of Moses do not fix the antiquity of the globe."

Some early English geologists were William Smith, Buckland, Conybeare, Sedgewick and Phillips; but no controversial outbreak seems to have begun until after Lyell commenced publishing his "Principles of Geology" in 1830. Granville Penn, however, opened the way by publishing a book against geologists in 1825.

VI.

THE ERA OF THE COMMENTATORS.

In heading this section "The Era of the Commentators" reference is had, not so much to the time when their works were first published, as to the period when they exercised the greatest influence on the masses of the people, more especially the religious portion of the people, both in Great Britain and America. This was mainly during the first half of the nineteenth century. Some notice will be taken of the rising school of Geology in its bearing on the Noachian deluge, but largely observations will be made on the attitude of theological writers on the same subject. The period, too, was prolific of controversies, particularly that waged over the age of the earth, in which the narrative of the Deluge became involved. A certain point may be stated here. Along some intellectual lines in the matter of willingness to receive and assimilate new ideas, England has sometimes lagged about a generation behind Germany, and America two generations. In regard to some other lines of investigation this disparity between countries during the nineteenth century was not so great. These remarks apply more to the intelligent classes than the multitude. The principal reason is that nations of the the same ethnic stock during the period of their intellectual development do not reach the same psychical stages contemporaneously.

Some of the more noted biblical commentators of the latter part of the eighteenth and earlier part of the nineteenth centuries were Thomas Scott, Adam Clarke

and Bagster. We have not been able to ascertain the dates of the publication of their commentaries, but they were still much in evidence among church people in this country in the middle decades of the last century. Of course the best English biblical, philosophical and scientific works of the century originated in Great Britain, but sooner or later they were reprinted in the United States. In this connection we should mention the Cottage Bible which had an extensive circulation in the eastern states. It was first publish- in London in 1833, and althongh not intended for a commentary, its exposition of chapters below the text and notes on some verses in small type in the bottom margins of its double column pages, made it serve the purpose of one for the common people. In this country it continued to be issued in two octavo volumes, its physical errors remaining uncorrected so late as 1847. This we presume was owing to the fact that the work had been sterreotyped for successive editions and hence continued to represent the state of theological opinion in regard to Geology prevalent at the time these volumes were first issued. From the frequency that Bagster's "Comprehensive Bible" was quoted in its notes we infer that the latter work was then recent.

We may refer in passing to English commentators earlier than Scott, Clarke and Bagster, to-wit, Edward Stillingfleet (1635-1699) and Matthew Poole (1624-1679), whose moderate views in respect to the Deluge we shall have occasion to quote. They wrote during the reign of Charles II. Partly contemporary with them there was Matthew Henry (1662-1714) who published a commentary on the whole Bible in the early part of the eighteenth century. This large work was practical

and devotional rather than critical. The time was too early for critical works in the English language to be of much if of any value. It appears that the location of the Garden of Eden was already engaging the attention of the curious. In general he took the narrative of the Deluge, as it reads, as many nineteenth century writers did, without attempting to discuss the numerous critical questions it suggests to any one somewhat well versed in scientific literature. This commentary is still extant since an edition in five octavo volumes was issued in New York in 1860.

To return now to later writers. They did not accept the views of Woodward and Catcott, as too many objections could be urged against their extravagant theory, yet to some extent were influenced by the Hutchinsonian school, more especially by the prevalent diluvian view respecting fossil organisms. When Thomas Scott published his commentary he appears to have realized the difficulty about collecting specimens of all kinds of animals known in his time, with which to replenish the earth after what he believed to have been a universal deluge, for we find him quoted as saying: "There must have been a very extraordinary miracle wrought, perhaps by the ministration of angels, in bringing two of every species to Noah, and rendering them submissive to him and peaceable with each other; yet it seems not to have made any impression on the hardened spectators."

When Scott and Clarke and others wrote, the great number of species of animals, birds and insects in the world was far from realized and it was supposed that the ark was large enough to contain them all; hence a universal deluge was commonly postulated and the

theological writers regarded fossil remains as an indisputable proof of this supposed fact. Adam Clarke interpreted the "fountains of the deep" rather more literally than most later theological writers were willing to do: "It appears that an immense quantity of water occupied the center of the antediluvian earth; and, as this burst forth by the order of God, the circumnambient strata must sink in order to fill up the vacuum occasioned by the elevated waters."

In the early part of the nineteenth century Cuvier published an elaborate "Theory of the Earth." The geologists had begun to give a limited attention to the northern drift which they attributed to the submergence of the land, whether by the sea or a deluge, to them was not clear. Cuvier held the view that the northern hemisphere everywhere bore evidence of a great cataclysm which he inferred had taken place no farther remote than six thousand years ago. He further supposed that some portions of the original stock of the human race had escaped this cataclysm on three sides and thus given rise to the Mongoloid, Negroid and White divisions of the race. The English geologists did not take kindly to Cuvier's ethnological hypothesis but more or less they accepted his cataclysmic view which some of them sought to identify with the Noachian deluge. This was particularly the case with Buckland.

James Buckland (1784-1856) was a clergyman of the church of England, but he nevertheless became a noted geological writer. He gave considerable attention to the fossil bones met with in rock fissures and caves. He knew something of stone implements but denied that their makers could have been contemporary with the extinct mammals whose fossil bones were coming to

light, nor were English geologists, generally, willing to admit this now palpable fact until about 1860.

In 1821 some laborers engaged in repairing a road, discovered the Kirkdale cavern in Yorkshire. The cave was found to be of an oblong form, about 250 feet in length, its entrance four feet in diameter and sealed up by glacial drift. Located in the side of a hill it had been hollowed out in Oolitic limestone. The floor of the cavern consisted of limy paste enclosing the bones of between two and three hundred hyenas, and remains of other animals dragged into their den as prey. The association of remains seem to point to the second interglacial epoch. Buckland explored the cavern and in 1823 he published a book on bone caves, etc., entitled "Reliquæ Diluvianæ or Observations on the Organic Remains Attesting the Action of a Universal Deluge." This work, upholding the diluvian hypothesis long after its abandonment on the Continent, attracted much attention on the part of the learned and continued to influence commentators and other theological writers down to the middle of the century at least, especially in the United States.

Buckland's adherence to the diluvian theory was in so far as he supposed that the surface deposits or the northern drift and marine shells found inland could be attributed to the Deluge, in the state of science at that time. This led him to believe that previous to the Deluge the Kirkdale cavern had long been a hyena den in which generations of those animals had lived and that the last of them had perished there in the Flood; also that the bodies of large animals whose bones were found in rock clefts had drifted into them. Fossils in limestone strata, he knew, had no such origin.

In 1825 Granville Penn began publishing successive editions of a book called by him "Comparative Estimate of the Mosaical and Mineral Geologies," in which he attacked the views of geologists and for principles of plain geological reasoning he substituted wild and fantastic theories. This is the earliest work of that kind in book form that we have seen mentioned, though during the next thirty years Penn had many imitators, not taking account of innumerable articles in less permanent forms of literature. Penn explained the Kirkdale cavern after this fashion: Ignoring the science of Comparative Anatomy which decides between living ane extinct species, and the fact that most of the bones had been gnawed, he maintained that a great number of carcasses of animals that had perished in the Flood had floated northward from intertropical regions, and driven by a gale of wind, had been carried as far as the north of England. There they were caught in a swirl of the subsiding waters and finally sank, being subsequently covered deeply under limy sediment. In the end the gasses evolved from the putrifying bodies inflated the limy matrix in which they were enclosed, as a glassblower blows a bottle in its mould, the stalactites of the cave being the last drippings of the lime before the whole stratum became set. This ingenious theory was more worthy of the times of the Schoolmen than of the nineteenth century. In a second edition of his book Penn expressed surprise that an Edinburg reviewer should merely have stated his "argument" without attempting to make any reply to it.

"For a season, geologists of high standing in our own country, such as Buckland and Conybeare, followed Cuvier so far as to hold, that the superficial deposits bore evidence every-

where of a great cataclysm, the last of the geologic catastrophies; and which might be identified, they believed, with the Noachian deluge. Against this view one of the most distinguished of Scottish naturalists, Dr. John Fleming, raised a vigorous protest as early as the year 1826, and conclusiuely showed that no temporary flood could have produced the existing appearances. And so thoroughly were his facts and reasonings confirmd by subsequent discovery, that the geologists of name who had acquiesced, wholly or in part, in the Cuvierian view, read in succession their recantations. Dr. Buckland in especial, who had written most largely on the subject, and committed himself most thoroughly, did so a very few years after: nor does the hypothesis of Cuvier appear to have been since adopted by any writer of scientific reputation."*

* Hugh Miller, Testimony of the Rocks, Boston, 1875, p. 325. First published nearly simultaneously in Great Britain and America in 1857.

Hugh Miller was born at Cromarty, Scotland, in 1802. Early in life he worked at the trade of a stone-cutter and speculated on the fossils in the rocks around Cromarty. Improving his education he was called in 1840 to edit the Edinburg Witness in the interest of an ecclesiastical turmoil then agitating Scotland. In the fall of that year he commenced publishing geological articles in the Witness. In the next sixteen years he published several books. In 1856 he sought to accomplish an impossible task—to freconcile Genesis and Geology by some permanent scheme calculated to satisfy the Christian world. In part from previously prepared lectures he wrought out the work above quoted. He never lived to see it issue from the press. In its preparation he overwrought his brain; a mental malady experienced in light form while working as a stone-cutter now began returning at night in a form more frightful than ever before, and in one of these paroxcisms in the night of December 23, 1856, he killed himself with a revolver. He slept alone above in his house and the tragedy was not discovered until the next morniug. Miller's death caused a profound impression in Great Britain and also in America where his writings were becoming well known.

Theologians have ever been slow to change any of their settled views even after substantial proof has had time to accumulate showing that certain ideas held for generations are nevertheless incorrect. This was particularly the case during the last century. But in the controversy over Geology, that in the main, in English speaking countries followed in the wake of the publication of Lyell's "Principles" (1830-'33, first edition) it should be said that many of the clergy took no part in it but rather assumed the attitude of waiting for more light upon the subject. Many others, however, plunged into the controversy as some always will when some long established opinion seems to them threatened with an overthrow. We must remember that in the thirties physical subjects were not well diffused as matters of popular knowledge and that many problems in relation to the crust of the earth were only beginning to be worked out, so we can now understand better the apparent backward nature of physical knowledge as put forth in commentaries, and in religious literature generally, in that part of the last century. The quotations that follow have now no value other than as being illustrative of the state of theological opinions on the subjects mentioned in the decades of the twenties and thirties and even much longer in belated instances.

"The truth of this important fact is shown by evidence existing at the present day. The highest eminences of the earth, the Alps, the Apennines, Libanus, Atlas and Ararat; every mountain of every region under heaven, where search has been made, all conspire in one uniform, universal proof, that they all had the sea spread over their highest summits; being found to contain shells, skeletons of fish, and sea monsters of every kind."—Bagster, on Gen. vii. 19.

"The most incontestible evidence has been afforded of the universality of this fact; the moose-deer, a native of America, has been found buried in Ireland, elephants, natives of Asia and Africa, in the midst of England; crocodiles, natives of the Nile, in the heart of Germany; and shell-fish, never known in any but American seas, with the entire skeletons of whales, in the most inland counties of England"—Bagster, Gen. vii. 23.

Now in the way in which the theological writers were accustomed to present their adherence to the diluvian view of shells and bones, it certainly placed the matter before the multitude of readers and also hearers (when adduced in discourses) as a very reasonable and even attractive view to hold. This was particularly the case with the majority of church people, ignorant of geological writings or prejudiced against them as the productions of "infidel philosophers." There is an aspect of the matter possibly unknown to the commentators of that day if unfamiliar with Geology. The nucleus of mountains upheaved from what was once ancient sea bottoms consist of igneous rocks, or those once in a melted state. Or, besides, the rocks are often metamorphic, once sedimentary, but changed by heat and other agencies so that their fossils have been obliterated. The flanks of many ranges, however, have the tilted remains of sedimentary rocks imposed upon them. Now the fossil shells observed on the sides of mountains had weathered out of such rocks and if older than the Tertiary Age, their fossils would belong to extinct species.

In regard to the second quotation, the matter, as presented, certainly appeared convinctng to those who knew nothing of Comparative Anatomy, and who were unable to distinguish extinct Pleistocene species of

animals from modern living species by their bones; the moose from the Great Irish elk; the Hairy Mammoth from the elephant, or the crocodile from saurians of the Jura-Trias and Cretaceous ages. We do not know of the remains of whales ever being found in the interior of England, but as strata of the ages mentioned occur there, the reference may apply to petrified remains in connection with them. In the earlier part of the last century the skeleton of a whale was discovered in a raised beach some fifty feet above the surface of Lake Champlain, or about 150 feet above sea level. At the close of the last glacial epoch the valley of the St. Lawrence river was depressed about 600 feet below its present level and the sea also extended into the basin of Lake Champlain, the beach marking the amount of the depression in that region. The skeleton of the whale, for many years after its discovery, used to be cited in theological literature as an evidence that the Flood had been universal!

"Some infidel philosophers have affected great difficulty to procure sufficient water to surmount the mountains of the earth to the height of 15 cubits, or near 27 feet; but, 1. Though we can measure our mountains, we cannot take the gage of the antediluvian ones, which might now receive a great accession by the drviing of the winds while the waters were subsiding; and we know, in fact, that prodigious quantities of petrifactions and alluvial deposits were lodged in them. Mount Ararat was probably one of their highest mountains, though by no means one of the highest of the present globe. 2. Suppose they were as high as Chimborazo (20,000 feet, or nearly four miles perpendicularly) still there is a chemical process carried on in nature, whereby, if the Almighty so pleased, (without a new creation) the gases of the atmosphere might be converted

into water. There can be no need, therefore, to look for the tail of a comet, or borrow waters from the moon, as some have been disposed to do."

It now appears from the science of Meteorology that the "chemical process" referred to would raise the ocean level a few inches only. In regard to variations of the ocean level, Hugh Miller wrote: "While the medium level of the ocean is one of the most fixed lines in nature, the level of the great continents, with their table lands and mountains, is an ever fluctuating line. It may seem strange that the land should be less stable than water. . . . And yet, while we have no evidence whatever that the sea level has changed during at least the ages of the Tertiary formations, and absolutely know that it could not have varied more than a few yards, or at most a few fathoms, we have direct evidence that during that time great mountain chains, many thousand feet in height, such as the Alps, have arisen from the bottom of the ocean."*

Sir John Leslie, in one of the editions of the Encyclopedia Britannica, had occasion to state: "Supposing the vast canopy of air, by some sudden change of internal constitution, at once to discharge its whole watery store, this precipitate would form a sheet of scarcely five inches thick over the surface of the globe."

The reverend editors having managed to conjure up sufficient water for a universal deluge, it may be of interest to see how it was finally disposed of.

* Testimony of the Rocks, pp. 311, 312. Miller did not have our modern knowledge of the Glacial Period. So much water was transferred from the ocean and locked up in the form of ice on the land, that in the second ice epoch, the sea level was probably lowered 150 or 200 feet.

"The means used to restore the earth to its former state, as a human habitation, were the following:—1. The flood-gates of heaven and the fountains of the deep were stopped, which prevented any further confluence of the waters; and 2ndly, a wind of a drying nature (perhaps the Samniel) passed over the earth, which produced an extraordinary degree of evaporation, by which means much of the water was carried up into the atmosphere, while, at the same time, 3rdly, the waters below retired in the nature of a tide ("going and returning" the margin reads) till they returned to those ancient caverns on which the earth is built, (Ps. xxiv. 2). Thus the waters gradually decreased, till the ark rested on some part of the mountains of Ararat, in Persian Armenia. It is generally supposed on the summit of the highest of them but more probably lower down, for the convenience of Noah's family, and of the animals, some of whom would find it difficult to descend into the plain, from an eminence so great."—Cottage Bible.

The above extract illustrates how little influence the naturalists and geologists then had in the world as opposed to the views of theological writers. The controversy over the age of the earth was then in progress, raging intermittently at least, both vocally and by any convenient means of print. Though most geologists of that generation were Christian men, they were sometimes assailed as being infidels and blasphemers, and charged with a desire to discredit the Bible. None of these aspersions and others like them had any foundation in fact, and were a product of ignorance, prejudice and misunderstanding. The commentaries and the religious literature of that time and later, where physical subjects were touched upon, helped to perpetuate among uncritical readers many an error. With the younger generation these illusions were being corrected

in colleges and academes, where text-books on Geology had begun to be used in this country as early as 1840, and probably lectures on the subject were given to the students earlier. The tendency of these text-books was to teach views in conflict with those then commonly held by the multitude and many of the clergy.

The theory of great cavernous places filled with water beneath the surface of the earth, continued to be maintained occasionally after men that were intelligent enough to write on different subjects, ought to have known better. Deep mines and borings show an increase of temperature to the earth's crust of one degree for each 40 to 50 or more feet. "A mile and a half deep, the earth's interior is hot enough ta convert water into steam; there is, therefore, no chance for water to exist at the center of the earth, or anywhere near it." No doubt water percolates downward beneath the ocean bottom to zones of heated rocks and probably is the principal cause of volcanic explosions like those of Krakatoa, Bandana and Mount Pelee.

Many persons used to suppose from the accounts they were accustomed to read of the tumultuous character of the Deluge, that in the nature of the case, it must have left marks on the surface of the earth that might come within the range of observation. The extract that follows, from an early edition of Hitchcock's text-book of Geology, indicates the position of geologists on that question and along in the early forties. After stating the generally accepted points of their science among the geologists themselves, he went on to say:

"A few points of importance yet remain in a great measure unsettled. Perhaps on no one is there more diversity of opinion, than concerning diluvial action. Indeed, the whole

history of opinions on this subject is very instructive. When the subject was first discussed, as much as 300 years ago, it was assumed as a most unquestionable fact, that whatever marks of a deluge any part of the earth's surface exhibited, or even of the former presence of the ocean on the land, all must be referred to the deluge of Noah. Nay it was soon maintained that the whole solid frame-work of the globe was dissolved and re-deposited by the diluvial waters. One after another have these extravagancies of hypothesis been given up, and nearly all geologists have come to the conclusion, though without denying the Noachian deluge, that no cartain marks of that event are now to be discovered on the globe. Nay, the question now is, whether there is any evidence of the occurrence of a general flood at any epoch. Not a few believe that no such evidencce exists; while those who admit of a general deluge, for the most part, regard it as having taken place anterior to man's existence on the globe. The recent glacial theory, explained in a preceding section, makes it very probable, that what has so long been regarded as proofs of recent deluges, has been the result chiefly of ice, with no other deluge but what resulted from the melting of the ice. After centuries of discussion, it is also beginning to be found out, that the facts are yet very imperfeetly known, and to an examination of these, geologists are now devoting great attention."*

* Elementary Geology, Third Ed., N, Y., 1845. Revision of 1842, pp. 297, 298.—Although Hitchcock in the early forties spoke of geologists as giving great attention to glacial phenomena, it was not until the last decade of the century that the glacial series was fairly worked out. In part this was perhaps owing to neglect, but more to the unsuspected complexity of the subject and the general prevalence of an opposing view, called the "Iceberg Theory." This postulated a deep submergence of much of the land that did not take place. But it was a plausible theory, rather hard to render obsolete after Lyell had lent to it his support. The Quaternary deposits, although geologically recent, are said to have been the hardest of all to decipher.

Considering the controversial character of those times, it should not be supposed that the sentence beginning with the words "The recent glacial theory," should have been allowed to stand long in a college text-book and go unchallenged when the commentaries and much other literature usually was making a stand on a universal deluge. In effect, it looked like a denial of the deluge. This equivocal sentence disappeared from later editions of the book, these words being substituted in place of it: "It is now generally admitted also, that ice, in the form of glaciers and icebergs, has been an important agent in producing the phenomena of drift." Other than this alteration the body of the paragraph seems to have remained the same as before through all subsequent editions.

Andrew D. White states in his work, "The Warfare of Science with Theology," that both Professors Hitchcock and Silliman were often annoyed by the attacks that were made upon them in the public prints at the hands of petty minded men. The controversy over Geology did not rage in the United States nearly so bitterly as in Great Britain; in this country the people were absorbed in material development and political questions, more especially in the fifties by the Anti-slavery agitation. In Great Britain, in the decades of the thirties and forties and right after each annual meeting of the British Association for the Advancement of Science, the secular and religious papers of the kingdom fairly teemed with assaults on the geologists.

To return briefly to the early edition of the text-book mentioned: "Some maintain that that the fossiliferous rocks were deposited by the deluge of Noah." After eighteen lines in type the size of this, in refutation of

the quoted proposition, Hitchcock thought it advisable to append in smaller type the following remark, though dropped from later editions:

"An apology is due to the geological reader for introducing a formal refutation of an hypothesis, which, to him, appears so entirely absurd. The apology consists in the fact, that many intelligent men are still found maintaining this hypothesis."

This and the two other views following, quoted below with the refutations that followed, seem to have been kept standing through all editions of that work.

"Some theological (but no geological) writers maintain that the fossiliferous rocks were not the result of slow deposition and consolidation; but were created at once with all their organic contents, just as we now find them. (Later, Hugh Miller had occasion to state that this sixteenth century hypothesis, abandoned in the seventeenth century, had been revived again in the nineteenth century by some who were opposed to the geologists, in a recurring cycle of nonsense.)

"Some suppose that the fossiliferous strata have been deposited in the interval of 1600 years between the creation of man and the deluge." And Hitchcock devoted 22 lines to a refutation of that hypothesis.

There were in evidence through most of the last century a class of writers commonly called "reconcilers" and who are hardly extinct even yet. Some were liberal minded clergymen, some religious scientific men, and others exponents of science. Disturbed by the controversies of their time and believing the Bible to be an inspired and inerrant record and of the nature of a divine revelation (as a whole the Bible makes no such claims for itself) they became anxious for a

compromise called a reconciliation. In regard to Genesis and Geology, every conceivable scheme was suggested and put forward, to be received by some, but rejected by an unsatisfied majority. Usually the story of the Deluge had to be reckoned with.

Dr. John Pye Smith was at the head of a denominational school at Homerton, near London. Being well acquainted with the science of his time, he saw that the numerous assailnats of Geology were placing both the Bible and religion in a false position, and hence he was anxions to bring about a reconciliation. In 1839 he published a book which bore this long title: "On the Relations Between the Holy Scriptures and Some Parts of Geological Science." Chalmers had put forth a scheme of reconciliation in 1814, as good as any of them, but a quarter of a century later the advance that had been made in Geology had rendered it no longer adequate. Chalmers' scheme, was, of course, universal in its application to the Biblical account of creation; Dr. Smith, on the other hand, made his scheme local, applying to a limited portion of Asia only, "fitted up for most glorious purposes," the creation and first abode of man. He discussed all points then in dispute with ability and candor, and his book, occasionally enlarged, went through five editions in England, and one edition was printed in this country. But his views failed of any general acceptance.

Dr. Smith made the Deluge partial, covering only such portion of the earth as he supposed had then been overspread by the human race. He appears also to have been one of the first theologians of the century to raise a protest against the idea of a universal deluge, then generally being maintained. In regard to the

manifest impossibility of collecting specimens of all kinds of land animals from all parts of the world, something that the advocates of a universal deluge maintained had necessarily been done, he raised this decided protest:

"We cannot represent to ourselves the idea of all land animals being brought into one small spot, from the polar regions, the torrid zone, and all other climates of Asia, Africa, Europe and America, Australia and the thousands of islands—their preservation and provision, and the final disposal of them—without bringing up the idea of miracles more stupendous than any that are recorded in Scripture. The great decisive miracle of Christianity—the resurrection of the Lord Jesus—sinks down before it."

Between 1830 and the middle of the century numerous works began appearing calculated to dissipate much of the prevailing ignorance, and to prepare English speaking people for the reception of much of the wider stock of knowledge of the last half of the century. Among these publications were Lyell's Principles of Geology; Mantell's Wonders of Geology; Whewell's History of the Inductive Sciences; Agassiz's Glacial Studies; Humboldt's Cosmos; Vestiges of the Natural History of Creation, an anonymous evolutionary work published in 1844; Kitto's Cyclopedia of Biblical Literature; Darwin's Voyage in the Beagle, and some books by Hugh Miller and others.

VII.

THE CONTROVERSY OVER A UNIVERSAL DELUGE.

NOTWITHSTANDING the fact that two English divines of the seventeenth century and such earlier geologists as Conybeare and Sedgwick, and latterly Buckland, and also Dr. John Pye Smith, all realized the impossibility of a universal deluge and argued for a partial deluge, a different view was still being widely maintained by commentators, theological writers and the popular literature in the forties and fifties, and further, the notion that the earth is only about six thousand years old was still quite dominant among church people. In passing, we shall state the opinions of Stillingfleet and Poole (as we find them quoted), men who were of age of Sir Isaac Newton and who might have seen Milton and Bunyan.

"I cannot see any urgent necessity from the Scripture to assert that the flood did spread over all the surface of the earth. That all mankind, those in the ark excepted, were destroyed by it, is most certain, according to the Scriptures. The flood was universal as to mankind; but from thence follows no necessity at all of asserting the universality of it as to the globe of the earth, unless it be sufficiently proved that the whole earth was peopled before the flood, which I despair of ever seeing proved."—Stillingfleet.

"It is not to be supposed that the entire globe of the earth was covered with water. Where was the need of overwhelming those regions in which there were no human beings? It would be highly unreasonable to suppose that mankind had so increased before the deluge as so have penetrated to all the

corners of the earth. It is, indeed, not probable that they had extended themselves beyond the limits of Syria and Mesopotamia. Absurd would it be to affirm that the effects of the punishment inflicted upon men alone applied to places where there were no men. If, then, we should eutertain the belief that not so much as the hundredth part of the globe was overspread with water, still the deluge would be universal, because the extirpation took effect upon all the part of the globe which was inhabited. If we take this ground, the difficulties which some have raised about the deluge fall away as inapplicable, and mere cavils; and irreligious persons have no reason left them for doubting the truth of the Holy Scriptutes."—Poole.

In both Great Britain and America rather conservative opinions dominated church circles during the first half of the nineteenth century. In a large measure this was owing to a reaction or moral counter revolution that had taken place against the open infidelity, Deism and loose morals of the eighteenth century. In regard to Scriptural topics, in the absence of any great array of scientific data, it led to an era of literalism, which, unfortunately hindered the dissemination of scientific knowledge among the people. Everything that was coming to light which did not square with Genesis, as it reads in the King James version, was suppressed as long as it could be, and then opposed or explained away, whenever the latter method was of any avail. In this tide of literalism the moderate views of Poole and Stillingfleet were set aside, if not wholly forgotten.

About the middle of the century, Hitchcock in this country and Hugh Miller in Great Britain found it to be expedient still to battle against such erroneous views as these: 1. The view that made the earth not more

than six or seven thousand years old. 2. The view that the Deluge had been universal as to the surface of the earth. 3. A popular notion that marine shells together with certain of the surface deposits were to be regarded as effects of the Deluge.

In regard to the shells, Miller in 1856 did not think the matter worth refuting, merely remarking that there were no longer any writers of any eminence in the field to contend against; but Hitchcock had found it different in this country six years earlier. On the latter phase of the question Miller remarked: "I need not dwell on the arguments for a universal deluge which have been derived from the superficial deposits. They all belong to an immature age of geologic science, and are of no value whatever."

Both Prof. Hitchcock and Hugh Miller arrayed against the numerous assertors of a universal deluge their whole scientific knowledge, which could never be successfully gainsaid. Both writers had already been preceded by Kitto's "Cyclopedia of Biblical Literature," articles "Creation" and "Deluge." And earlier by Dr. John Pye Smith. Dr. Kitto's work was published in England and in this country, in two volumes about the years 1844-46. Altho the work bore Dr. Kitto's name, he appears to have had no control over the trend of its articles. Thus, while Dr. Kitto himself was inclined to regard the Deluge as having been universal, the writer of that article arrayed against that conception every scientific fact of which he had knowledge. The writer on Cosmogony or Creation readily recognized the claims of Geology and taking note of the various schemes of reconciliation that had been proposed, he declined accepting any one of them.

In those times it was a favorite theory with some that at the Deluge sea and land had changed places, and in that way, sea shells on the land could be accounted for. It may be of some interest to know how Hitchcock and Miller replied to that view or that they thought the hypothesis any more worthy of notice than some of the preposterous fancies of Granville Penn.

"I might add to all this that the facts of geology forbid the idea that our present continents formed the bed of the ocean at so recent a date as Noah's deluge, and that the supposition that all organic remains were deposited during the two thousand years between the six days' work and the deluge is totally irreconciliable with all correct philosophy. Why, during the time when the fossiliferous rocks were in a course of formation, four or five entirely distinct races of animals and plants successively occupied the land and the waters, and passed away in regular order; and these races were so unlike, that they could not have been contemporaneous. Who will maintain that all this took place in the short period of two thousand years? I am sure that no geologist will."—Hitchcock.

"Nor will it avail aught to urge, with certain assertors of a universal deluge, that during the cataclysm, sea and land changed their places. . . . No geologist who knows how very various the ages of the several table-lands and mountain chains in reality are could acquiesce in such an hypothesis; our own Scottish shores—if to the term of the existing we add that of the ancient coast line—must have formed the limits of the land from a time vastly more remote than the age of the deluge." —Mliler.

Such extracts as the foregoing are of interest now only in so far as they are illustrative of the ignorance upon physical subjects prevalent in the middle of the last century and which the authors quoted felt them-

selves called upon to oppose. They are illustrative, too, of the changeful history of opinions on the subject. As a general thing, practical geologists disdained to make any replies to their opponents; that were rather left to educators and exponents of the science; thus, Hugh Miller writing in 1856, remarked that for the previous fourteen years he had submitted to the assaults of those who were opposing Geology, without provocation upon his part and without reply.

As has been remarked, the body of church people in the United States all through the last century, in respect to some topics (those that touched creed and doctrine in particular) managed to keep themselves a generation behind England. Writing in 1850, Hitchcock stated that he presumed that the majority of the church people of New England still preferred to hold the view that the earth is only about six thousand years old. With some show of complaint, he stated that certain books designed to oppose geological science were then having a far wider circulation than the more legitimate writings of Dr. John Pye Smith and others; yet at the same time he could see that the errors so inculcated were being rapidly dissipated by the progress of education in the colleges and academies.*

* Perhaps the reader may not be aware that what is here pictured educationally for the middle of the last century is being silently repeated in present times over a different issue. All elderly persons know that for a generation following the publication of "The Origin of Species," the doctrine of Evolution was vehemently opposed by most of the churches, and many books and innumerable articles were published in opposition to the doctrine. The universities gave this scientific hypothesis a favorable reception and toward the close of the century the controversy began to die out. During the new century several books used in the high schools now assume and teach the evolutionary view.

"When it was found that most of the petrifactions in the rocks were of marine origin, not only were they supposed to be the result of the deluge, but a most conclusive proof of that event. The argument in its favor when stated in a popular manner to those not familiar with geology, is indeed quite imposing. For if the land, almost every where, even to the tops of some of its highest mountains, abounds in sea shells, this is just what we should expect, if the sea flowed over those mountains at the deluge. But the moment we come to examine the details respecting marine petrifactions, we see that nothing can be more absurd than to suppose them the result of a transient deluge. Yet this view is maintained in nearly all the popular commentaries of the present day upon Genesis, and in many respectable periodicals. It is taught, therefore, in the Sabbath school and in the family; and the child, as he grows up, is shocked to find the geologist assailing it; and when he finds it false, he is in danger of becoming jealous of the other evidences of Christianity which he has been taught."*

In another place in his book, Hitchcock remarks that at that time there were many intelligent men who could not see clearly why the remains of marine animals and plants could not be referred to the deluge. "But they cannot be," he said, and did not think it amiss to devote nearly a whole page to giving plain reasons, well known to geologists, if not generally understood by others, why the popular hypothesis could not be acquiesced in, and he added: "It is a theory that no reasonable man can long maintain after studying the subject."

As this work is largely a treatise on opinions that have been held at different times in respect to the Bible narrative of the Deluge, at this point we shall endeavor

* The Religion of Geology, pp. 118, 119.

to seek the reasons why so late as the middle of the last century in this country, so many persons were still holding to the view that marine organisms had been spread over the continents by a universal deluge.

1. In the first place this was an inherited opinion. It has been said that the presuppositions of religion can be changed only very slowly. False views long held and generally taken for granted, can hardly be argued down in a single generation. They rather have to be outgrown by a second and third generation, educated in a different atmosphere of opinion.

2. What is called a liberal education, such as the colleges and academies were then beginning to impart (the academies were much like the modern high school) mainly affected the younger generation only, and by no means a majority even of these, for the masses of the people in the northern states only had a common school education. The school books that they had used were rather barren of scientific information while the common literature of the period was not much better. The masses of the people were, in general, left just where they were educationally, when through with such schooling as they had been able to obtain. The masses, therefore, knew little or nothing of the teachings of Geology, and even where some adult persons who had never attended a college or academy, did possess a little knowledge of that kind, it had never been obtained in the common schools.

3. The theological controversy over the age of the earth and a universal deluge had not as yet subsided, and in fact, as late as 1856 Hugh Miller had to argue against both conceptions; as Hitchcock had done six years previously. Church people were still largely

living under the influence of Usher's chronology and the commentators, to say nothing of much theological literature. Then there was the influence of the books specially written to oppose geological science which then had a considerable circulation but of which now we know but little more besides some of the titles they bore.

4. Another factor to be considered was a very common view of the Bible then widely prevalent and taken for granted, something rather different from present day conceptions, excepting in the case of extremists. Much was then accorded to the Bible which it neither is nor claims to be. Among these conceptions were the theories that the Scriptures are totally inerrant, that is, containing not the least mixture of error, and also that these writings are verbally inspired, or the view that the Almighty had, in some way or other, dictated every word and sentence. Another common opinion then was that the various persons whose names were connected with different books of the Bible were their real authors. Hence it followed with perhaps a majority of church people and the clergy in this country in the forties that if the Bible said plainly in its very first chapter that the earth was made in six days, so it was, and if it was explicitly said in Genesis that the Flood had been universal, it must have been so, whatever the geologists had found, or supposed they had found, that had the appearance of proving the contrary.

5. Anothrr factor was the psychic condition of the nation at that time. In its intellectual advancement a nation is much like an individual. Just as the young credulously entertain various ideas that in later stages of life, with maturity and reflection, they readily cast

aside as youthful errors, so a nation in generations of national maturity will begin spontaniously to reject its mythology, in which earlier generations had more or less firmly believed. The process begins with the intellectual classes and gradually works downward thru the various grades of society. This country is not now in the same psychical stage by far as was the generation that was middle aged at the outbreak of the Civil war. The accumulation of knowledge, inventions, and national growth and other factors have produced corresponding intellectual changes.

Those theologians who looked upon Geology with disfavor were apt to say that it was a science founded upon appearances rather than facts; that the science had not a single valid argument to support it; and that its deductions contradicted the Bible. Of the geologists they said they disagreed with one another; that what one laboriously built up another tore down. They would therefore hold to the plain literal meaning of the Scriptures and reject these presumptious innovations. It was true that when the science was new and undergoing investigation, there were disagrements among the geologists in regard to the methods of nature amidst a general unanimity of opinion among them as to the main principles of their science.

A question that now, more than ever before, began to embarrass the assertors of a universal deluge was one that came within the realm of zoology, or that which related to the capacity of the ark to contain the required number of specimens of all the land animals on the globe. The dimensions of the ark were approximately known and hence at different times, back at least to the time of Sir Walter Raleigh, calculations

were made which went to show that there was sufficient room in the ark for all the birds and animals then known, and also space to provision them as was supposed, and some to spare. The commentaries used to take note of such calculations. The following extract will show how the Cottage Bible met the difficulty in respect to the animals at a time when species were increasing on the hands of naturalists by discovery.

"As to the capacity of the ark to hold the various creatures to be preserved, it has indeed been much disputed; but Bishop Wilkins has reduced the number of species of animals, which at first view may seem almost infinite, within very moderate bounds. He reckons that they do not amount to 108 quadrupeds and 2co birds; and of these must be excepted such as live in the waters, such as proceed from a mixture of different species, and such as change their color, size, and shape, by changing their climate, and thence, in different countries, seem to be of a different species, when they are not. He afterwards enters into a particular detail of the animals, of the quantity of the food necessary for them, and of the capacity and proportions of the ark, and concludes there was room, and to spare."

Calculations as to the dimensions of the ark might differ according to which of two or more cubits were employed varying from about 18 to about 22 inches. Some made the ark to have been 450 feet long, 75 feet wide and 45 feet high; total floor space (three decks) 101,254 square feet. H. G. Mitchell: Length 487 feet, breadth 82 feet, height 48 feet; total floor space 118,682 square feet. Dr. Kitto's measurement amonnted to a length of 547 feet and a breadth of 91 feet for the ark.

A time came in the nineteenth century when Zoology and Comparative Anatomy refused to listen any such

attempts to reduce the number of species; on the contrary their number was constantly increasing on the hands of naturalists by distinguishing the fact that what had been supposed to be the same species of animals, such as the deer, inhabiting different countries, were found to be of different species; and again, by discovery, particularly in oceanic islands like the East Indies. Those of the bird kind had increased to 2,372 species when Adam Clarke wrote his commentary, and Hugh Miller recognized 6,266; later still Gray estimated them at 8,000 species. Over 2,000 mammals were known in the middle of the century. As for insects, they had been estimated as early as 1842 to comprise 550,000 though Hitchcock in 1850 says 120,000.

In the controversy over a universal deluge, and in the interest of one taken to have been merely partial, both Hitchcock and Hugh Miller cited what had become known of zoological and botanical provinces on the earth, to which animals and plants are generally restricted. "It is inevitable death" says Hitchcock, "for most species to venture beyond certain limits. If tropical animals and plants, for instance, were to migrate to the temperate zones, and especially to the frigid zones, they could not long survive; and almost equally fatal would it be for animals and plants of high latitudes to take up their abode near the equator."

"Linnæus held, early in the last century, that all creatures which now inhabit the globe had proceeded originally from some such common centre as the ark might have furnished; but no zoologist acquainted with the distribution of species can acquiesce in any such conclusion now. We now know that every great continent has its own peculiar fauna; that the original centres of distribution must have been, not one, but

many; further, that the areas or circles around these centres must have been occupiad by their pristine animals in ages long anterior to the Noachian Deluge; nay, that in even the latter geologic ages, they were preceded in them by animals of the same general type. There are fourteen such areas or provinces enumerated by the later naturalists."*

The conclusion of Miller in regard to the capacity of the ark to hold the required number of specimens of all kinds of land animals, was that half a dozen arks would have been needed fo accommodate them all. The kind of Flood that many were then upholding would have required eight or nine times as much water as there is on the globe to cover all of the highest mountains. Such a deluge, if possible, would have been almost as fatal to marine forms of life as to land animals, and by reason of the mixture of salt and fresh waters that would have ensued. On this phase of the controversy Miller had this to say:

"Further, in a universal deluge, without special miracle vast numbers of even the salt water animals could not fail to be extirpated; in particular almost all the molluscs of the litoral and laminarian zones. Nor would the vegetable kingdom fare greatly better than the animal one. Of the one hundred thousand species of plants, few indeed would survive submersion for a twelve-month; nor would the seeds of most of the others fare better than the plants themselves."†

Those who were contending for a universal deluge were, to a greater or less extent, unaware of the formidable physical difficulties that opposed their view of the matter, such as the impossibility of Noah gathering specimens of all kinds of animals from all parts of the

* Testimony of the Rocks, p. 344. † Ibid, p. 350.

earth, or of the animals leaving their several climatic zones and coming themselves to Noah, if that were the view to be held. When some became cognizant of such difficulties they had a habit of resorting to unrecorded miracle. Says Miller: "There is, however, a class of learned and thoroughly respectable theologians who seem disposed to accept rather of any amount of unrecorded miracle, than to admit of a merely partial deluge, coextensive with the human family." Both Hitchcock and Miller had their opinions of this matter which will now be presented. First as to Hitchcock:

"Some writers endeavor to show the conformity of the sacred history of the deluge to established natural laws, until they meet with some objection too strong to be answered, when they turn round and declare the whole occurrence to have been miraculous. This I conceive to be absurd, and I shall accordingly proceed on the supposition that the whole event was a penal infliction, brought about by natural laws; or, at least, if there was anything miraculous, it consisted in giving greater power to natural operations, without interfering with the regular sequence of cause and effect. And does not the narrative leave the impression on the mind of the reader, that it was brought about by natural means?"*

"To imagine a miracle without proof, merely to escape a fair conclusion, is, to say the least, very wretched logic."†

Next as to Hugh Miller: "And be it remembered, that the expedient of having recourse to supposititious miracle in order to get over a difficulty insurmountable on every natural principle, is not of the nature of argument, but simply an evidence of the want of it. Argument is at an end when supposititious miracle is introduced."

* The Religion of Geology, p. 127. † Ibid, p. 88.

Miller devoted two lectures or chapters of his work, comprising about eighty pages, to the Noachian deluge, an index of the importance that he attached to the subject. Like other writers of that time he made a considerable use of various deluge legends. Hitchcock devoted one lecture to the Deluge comprising a little over thirty-three pages, entitled, "The Noachian Deluge Compared with the Geological Deluges." Miller knew of Hitchcock's work and took hints from it which he elaborated in his own clear style. Both writers arrayed against the conception of a universal deluge a certain kind of evidence drawn from the cones of extinct volcanoes, the following extract being a good example:

"In various parts of the world, such as Auvergne in central France, and along the flanks of Etna, there are cones of long extinct or long slumbering volcanoes, which, though of at least triple the antiquity of the Noachian deluge, and though composed of ordinary incoherent materials, show no marks of denudation. According to the calculations of Sir Charles Lyell, no devastating flood could have passed over the forest zone of Etna during the last 12,000 years."*

"No wave" Miller adds, "ever dashed against their symmetrically sloping sides," and remarks that he had never seen the argument derivable from this class of facts fairly met. Some writer suggested that the rise of the waters may have been so equable and quiet like that the vegetation was not injured nor the scoria of the volcanoes disturbed. But here it may have been convenient to forget that the evaporation of the waters is said to have been assisted by a wind, and this invariably sets waves in motion. Hitchcock in his text-book of

* Testimony of the Rocks, p. 353.

Geology, remarks: "That deluge must have been for the most part violent and tumultuous in its action on the globe; for the ocean must have flowed over the land in strong currents; and when it retired, urged on as it was by a wind, similar currents must have prevailed."

Hitchcock in this country and Hugh Miller in Great Britain hedged in those who were inclined to maintain a universal deluge, at every point. As geologists they saw how impossible this view was successfully to uphold, as the general facts of science were steadily opposed to it; yet at the same time, as Christian writers they felt that the Bible narrative must be maintained in some form or other, and not having the facts of the Higher Criticism to help them, they fell back, perforce, on the idea of a partial deluge, a conception by no means new.

In adopting his explanation of the Deluge, Miller candidly acknowledged that what he could offer was at best only conjecture, and that he should "have to remove from very strong to comparatively weak ground." His explanation was to this effect: Taking cognizance of the fact that the region of the Caspian and Aral seas is depressed a little below sea level, he supposed a slow downward movement of the earth's crust to have ensued sufficient to have let in upon that portion of Asia the waters of the surrounding seas and oceans that caused a submergence of a widely extended area of that continent, covering all the higher hills. To the occupants of the ark it would appear, not that the land was sinking, but that the waters were persistently rising. The animals taken into the ark were such only as belonged to the region submerged and Miller supposed that the

human race, descended from a literal Adam, had not spread any farther. The Flood having accomplished its purpose, the depressed region was again elevated, the waters draining back to the oceans.

The tragic death of Hugh Miller [see footnote p. 80] in December, 1856, virtually put an end to the contentions over Geology and the Deluge. The eulogies of press and pulpit, a funeral cortege the greatest in Edinburg since the death of Chalmers in 1847, and the influence of his posthumous work, all contributed to the matter, that of ending an unhappy controversy and foisting upon Protestant denominations the scheme of reconciling Genesis and Geology that he had advocated. A pause ensued, and then churchmen gradually began accepting the compromise that was offered, not because all the theologians wanted it, (for the "period" interpretation of the "days" of the first chapter of Genesis had been proffered long previously only to be rejected) but because nothing better seemed likely to be forthcoming. And that also involved the acceptance at least of the idea of a partial deluge, whether Miller's explanation of it was acquiesced in or not.

In the fifties the controversy had been subsiding and in 1856 Miller could see only the straggling remains left of a once numerous body of assailants. The mass of church people were now either indifferent to the issue or in the attitude of awaiting its settlement, generally willing to acquiesce in any view that their pastors entertained. But any scheme of reconciliation between Genesis and Geology that might be formulated could, after all, only be of the nature of a compromise.

VIII.

AN ERA OF COMPROMISE.

Controversies such as that over Geology and that which followed over the doctrine of Evolution, where they are long continued and call forth books and much other printed matter, are apt to run through certain well defined phases. For a while the subject to be attacked attracts little or no attention save an occasional note of alarm; then follows a period of bitterly waged controversy before the end of which the reconciler steps in; lastly, there follows a gradual decline of the controversy, ending, it may be, with a compromise.

When Chalmers, John Pye Smith, Hugh Miller and others elaborated their several schemes of reconciliation they failed to take account of three things, any one of which might render these schemes obsolete. 1. The possibility that the advance of science would render such scheme inadequate or untenable. (That was what happened to Chalmers' scheme.) 2. The law of progressive variation of opinion. 3. The possibility that changed views of the origin of the book of Genesis might upset any such scheme of reconciliation and be fatal to its permanence. Now Miller's chapter on the "Mosaic Vision of Creation" all hinged on the supposition that Moses wrote the Pentateuch.

Miller's scheme of reconciliation which included a partial deluge, became the generally accepted one for decades following among church people. It was endorsed by "orthodox" scientists in this country, such as J. D. Dana, Joseph LeConte, Alex. Winchell and Ar-

nold Guyot, but none of these men ever pretended that an exact harmony could be established between the account of creation in the first chapter of Genesis and the geological record. Dana introduced that kind of a cosmogony into his Manual of Geology, at the same time assuming the role of an apologist for its lack of exact parallelism with what Geology taught. As for the Flood he ignored it altogether.

A large number of geologists and educators never accepted Miller's scheme, least of all his explanation of the Deluge. This last was totally opposed to Lyell's uniformitarian view, that is, the supposition that in past ages geological agencies have never worked with any more intensity than they have been known to work during the historical period. Another school of geologists, admitting long periods of repose, have nevertheless, believed them to have been terminated by sudden geologic catastrophies. However, Miller's view involved on an extensive scale what would now be called an "epeirogenic" movement of the earth's crust, both downward and upward, which no geologist would admit of within so short a space of time as a single year. In the Second Glacial epoch the Black, Caspian and Aral seas were probably inter-connected, but such a submergence would have involved no very great area of land.

In 1863 there was published in London a work called Smith's Bible Dictionary, really of the nature of an encyclopedia like the work of Dr. Kitto that we have mentioned. This was reprinted in this country. In his "Warfare of Science with Theology" Dr. White tells a story showing under what trammels writers of articles for such works sometimes found themselves placed. Notwithstanding all that could now so conclusively be

urged against a universal deluge, those who had the work in hand determined in their article "Deluge" to maintain one of that kind. They therefore placed the writing of the article in the hands of a theologian from whom they felt sure that they could get one of the kind wanted. But if this person had aforetime upheld a universal deluge, he had since changed his view point. About the time the article was wanted it came to hand, but the editors rejected it and this time placed the writing of a second article in supposedly safe hands. As the printing the work would progress beyond the place in the volume where it should go into it before the new article could be received, there was a carrying forward made from D to F, such as is common in reference works, thus: "DELUGE. [See Flood.]" The second article arrived about the time needed under the letter F, but it proved to be more heretical than the first. All that could now be done was either to use one of these unsatisfactory articles or resort to the last available cross-reference and meantime procure a satisfactory article, if possible, from some other quarter. So the position of the article in the Dictionary was carried forward another stretch, thus: "FLOOD. [See Noah.]" The third writer, knowing what was wanted, conceded the point, but in a most guarded manner, and so what there is said about the Deluge in the work mentioned may be found in the article "Noah," whereas, as was at first intended, it should have been under its proper heading, "Deluge."

President White, it should be said, did not relate this story of his own knowledge, but upon the authority of an informant whom he names. We have examined a couple of the American editions of the Dictionary, but

of later date than 1863, and have not found the details of the story wholly borne out. The cross-reference in these editions is directly from Deluge to Noah, without any intermediary "Flood." Nor does the article even pretend to uphold a universal deluge, but rather denies its possibility. Hugh Miller's ideas are in part followed, and the article says: "All the considerations point with overwhelming force in the same direction and compel us to believe, unless we suppose that a stupendous miracle was wrought, that the Flood of Noah (like other deluges of which we read) extended only over a limited area of the globe." Could the reference to "a stupendous miracle" be the guarded concession referred to above? Of course there is a possibility that a change was made in the next edition following the first one.

We will here briefly refer to a certain kind of small books, such as were printed for Sunday School libraries. In this class of works, sometimes treating of Biblical subjects for the young, an over strong literalism was common, even to the exclusion of some of the well established facts of modern knowledge. As an example, we remember coming across a "Life of Noah," printed in 1866, and written, we think, by a certain Rev. N. P. Kidder, possibly a retired clergyman who wrote Sunday School books. Everything was literal history from the Creation onwards. Marine shells on the land, in Europe and America, had been deposited in the interval of 1656 years between the Creation and Deluge, those continents not having as yet risen above the waters. (See p. 89). In the case of North America the Rocky Mountains arose first, then the Sierras and Alleghanies and then in turn the lower elevations. This continent-making process was about the time of the Deluge, or

perhaps a little later. The deluge was universal as to all land above the ocean level at the time of its occurrence. Perhaps some animals were not created until after the deluge, but we do not remember what was maintained in the domain of zoology. The white race, with some exception, was descended from Japheth, the yellow, brown and red races from Shem, and of course the black race from Ham, and in this country down to 1865 had inherited the curse of Cainan. No Sunday School books, in treating of natural phenomena, were willing to admit in those times, that the earth is more than six thousand years old.

The question might be asked, why such an exhibition of ignorance so long past the middle of the century, in the case of a person intelligent enough to write a book and probably preach a good sermon in his own regular vocation, and at a time when he had abundant opportunities to have known better. The theory of the verbal inspiration and total inerrancy of the Bible was still rather dominant at that period, while a large number of the clergy of certain denominations had little or no knowledge of recent scientific literature, or of Geology. With many there was still a lingering prejudice against Geology, which could be found cropping out occasionally all through the remainder of the century and is not wholly extinct to this day, though now comparatively rare in this country. Such writers were then more apt to look for help to the old commentaries and at the same time were likely much more familiar with writings hostile to Geology than with those of John Pye Smith, Hitchcock and Hugh Miller.

The period between the close of the Civil war and the last decade of the century was one in which other

"reconciliations between science and religion" appeared but by a later generation of writers than those already quoted. There was now less candor shown in meeting critical points than what had characterized the earlier reconcilers, certain real difficulties being obscured by general statements. The "conflict between science and religion" (really a collision between advancing scientific knowledge and ecclesiastical dogmas or Theology) was still kept up but it had now taken a different turn, the controversy being over Evolution and the Antiquity of Man. But a general compromise over the Deluge had been attained, a partial for a universal one. We shall now quote Alex. Winchell on the subject.

"The geological evidences and the traditions of many nations concur, therefore, in testifying to the occurrence of one or more great deluges since the appearance of our race upon the earth; and the traditions are singularly harmonious in reference to the occasion and principal incidents of the deluge. Thus, they generally agree with each other and with Moses in affirming, 1. That the deluge was intended as a punishment for man's wickedness. 2. That it brought destruction to the ancestors of the nation perpetuating the tradition. 3. That one good man and his immediate relatives were saved in a floating vessel. 4. That certain quadrapeds and birds were also preservad. 5. That the vessel finally rested on a mountain. 6. That birds were sent out at intervals to bring back indications of the retirement of the waters. We may confidently assert, therefore. that the Mosaic narrative of the deluge, in its essential features, is a correct historical statement.

That the deluge was UNIVERSAL we have NOT similar grounds for believing. 1. There are no geological evidences of a general inundation since the advent of man. It must be admitted, however, that a deluge which lasted but three hundred

and sixty-four days would not have left very permanent records. 2. If the universal inundation were caused by a general subsidence of the continents to the requisite extent, the evidences of this must still exist; but they have not been discovered. 3. If it were caused by the addition of the requisite amount of water to our globe, without a subsidence of the continents, the earth's mass would be so much increased as to disturb the harmonies the solar system. 4. It was impossible for Noah or any number of men to gather zoological couples from all the various continents—still less to do it in the time indicated. It is a work which has not been accomplished to this day by the managers of all the zoological gardens of the world. 5. The animals from different zones could not have endured the climatic vicissitudes, especially if the ark rested on the summit of a mountain reaching into the region of perpetual snow. 6. The capacity of the ark was extremely inedequate for the accommodation of so many animals and a year's supply of food. 7. The waters of a universal deluge rising five miles above the ordinary level of the sea could not evaporate in three hundred and twenty-five days; and if they could, the atmosphere would be incapable of supporting them; and hence there would be no way of disposing of such a body of water over the land, except by a change of relative levels, which we have stated to be geologically improbable. 8. The deluge may have been 'universal' in respect to ths descendants of Adam, and yet have been geographically local. 9. The local character of the deluge has for centuries been maintained by many eminent divines, simply on linguistic and general grounds.

"If it be asserted that a universal deluge, and all the other events as formerly understood, could be accomplished by miraculous agency, this must be admitted; but it will be noticed that Moses attributes the inundation to NATURAL agencies."*

* Reconciliation of Science and Religion, N. Y., 1877; pp. 367-8.

Prof. Winchell, it would seem, thought it to be worth while so late as the year 1877 to try to convince some backward church people that the Noachian deluge could not have been universal as to the surface of the globe. It would not have been difficult in the decade of the seventies to find clergymen who preached in small towns and country communities still holding the view that the world had been created in six literal days and consequently is only about six thousand years old. Such clergyman were usually referred to as being uneducated. The majority of church people even in country communities at that time accepted a great age for the earth, the six days standing for "periods" of indefinite length, with a deluge only partial in extent. And such views had been attained, not so much by any study of such questions as from what they had noted in their reading was the consensus of educated opinion.

Prof. Winchell was one of those scientists called "Bible geologists," that is, of those who believed in a Scriptural flood of some kind of other, together with a literal ark, and who tried to co-ordinate the first chapter of Genesis with the geological record, failing to perceive that such efforts could have no lasting permanence. Writers of that character were apt to be rather inconstant of opinion. In the book quoted Winchell committed himself essentially to the Mosaic chronology of Man. The very next year he was advocating its extension 10,500 years before Abraham for the creation of Adam, also advocating the theory of pre-Adamite races, of which he supposed the black race to be the existing survival. The Caucasian or white race and possibly the Mongoloid, he took to be of Adamic descent. A natural flood having destroyed a part of the

Adamic race, a section that escaped it, under the ethnic name of Noah, gave rise to the white race, with their numerous ancient traditions of a deluge. According to this view Noah ceased to be an individual, but became instead, an ethnic name for a body of people.

Prof. Winchell held a Chair of Zoology in Vanderbilt University, Nashville, Tenn., which at that time and down to 1914 was under theological control by the Methodist Church South. Southern religious papers raised an outcry against Prof. Winchell, charging him with being an Evolutionist and enemy of the plan of salvation, and consequently the president of that institution felt constrained to dismiss him from the position he held there. This act, with the attendant circumstances, aroused criticism, by no means favorable to the university. Winchell was at once called back to the state university of Michigan where he could discourse free of theological trammels to a far larger body of students than at Vanderbilt University. About that time Prof. James Woodrow was turned out of a theological college at Columbia. S. C., also charged with being an Evolutionist, but he was immediately called to a position in the state university in the same city.

In the eighties the professors in the theological, if not the secular colleges, were rather freely suspected of being constrained by their positions and environment to teach the students views that in the inner recesses of their minds they repudiated; also that such examples as those of Winchell and Woodrow were filling these institutions with intellectual hypocrites. At length it began to be perceived that the intelligent classes were within the sweep of a great intellectual movement in which old views were being modified or passing away,

and old questions, once taken for granted, were being re-examined. It was also seen that Theology was out of harmony with Science. By the end of the century the controversy over Evolution had about died out, and it was apparent that science would not recede an inch on the question. A great antiquity for man was becoming clearer than ever and a chronological classification of implements and remains was now becoming possible by reason of constant new discoveries. Under such circumstances the turning of professors out of theological colleges, as evolutionists, became rather impossible.

From this digression we shall naxt turn to the encyclopedias. Between the close of the Civil war and the end of the century there were published in this country several sets of encyclopedias. Their article "Deluge," usually occupying only three or four inches of space, was of about the same tenor in all of them and was probably based upon some edition of Chambers' Encyclopædia that was later than Hugh Miller's time. The editors of these works appear to have wished to avoid all critical discussion of the narrative on account of its being a Biblical subject. The following is an example of the little they were willing to give:

DELUGE (through the French, from Lat. diluvium, a washing away, a flood.) There is scarcely any considerable race of men, among whom there does not exist, in some form, the tradition of a great deluge, which destroyed all the human race except their progenitor. That the Noachian deluge, recorded in Scripture, covered the whole earth, was the universal opinion until towards the close of the last century. The organic remains, on which the science of palæonlology is now founded, were regarded as its wrecks, and were held to prove that it had covered every known country, and risen over the

highest hills. In the progress of geology, it soon became evident that most of the stratified rocks demanded an earlier origin than a few thousand years, and the influence of the deluge was consequently restricted to the slightly altered superficial deposits; but many of these were, after a few years, found to belong to a period vastly anterior to any historical epoch, and produced by long continued agencies, differing totally from a temporary deluge. The present tendency of opinion among writers like the late Hugh Miller, is to regard the flood of Noah as partial and local, although the universality seems to be implied in the biblical description.

There was more advancement shown in England at that time than in this country in regard to a candid treatment of the topic. During a few years both prior and subsequent to 1880, there was published in London the ninth edition of the Encyclopædia Britannica. It was remarked as its successive large volumes appeared, as reproduced in this country, that on Biblical subjects it was in advance of what had hitherto been common in such works. A clergyman in 1882 writing concerning it in the Northwestern Christian Advocate (Chicago) remarked that "it was startlingly rationalistic," but he admitted that the work was the best of its kind then extant. Some of its Biblical articles had begun to be tinctured with the principles of the higher criticism and was about a generation in advance of the average encyclopedia originating in this country. (See p. 74.)

The article "Deluge" in the Britannica is of considerable extent and its writer disdained evading critical discussion by referring readers to "writers like the late Hugh Miller." The question of historicity was not thought worth discussing as it was assumed throughout that the narrative is not historical. As for those an-

cient traditions upon which commentators and other writers had so much relied, they were brushed aside as being a part of primitive cosmogonies and of no historical value whatever. The Assyrian legend translated from the cuneiform tablets by George Smith is discussed and the question raised whether that or the Hebrew tradition were the older, or whether both were or were not derived from a common primitive myth. The dual authorship of the narrative in Genesis is also discussed.

There is a class of encyclopedias derived from the Britannica called Americanized or "scissored" editions which bear about the same proportions to the original as a Webster's Unabridged Dictionary does to an academic or school dictionary. Some articles in the latter are so abbreviated as to be of no value in comparison with the real Britannica. The following forms an example taken from one of these scissored editions:

DELUGE, a submersion of the world related by various nations as having taken place in a primitive age, and in which all, or nearly all, living beings are said to have perished. By this definition we exclude all partial floods, and also the theory which would account for deluge stories as exaggerations of traditions of local inundations. Upon a low level of culture, as Von Hahn has shown, the memory of the most striking events is hardly preserved even for a few generations. It is best, therefore, to regard the story of the Deluge as a subdivision of the primitive man's cosmogony. The problem with which he had to deal was a complicated one—given the eternity of matter to account for the origin of the world. The best solution which presented itself (and that only to the shrewder races) was to represent Creation as having taken place repeatedly, and the world as having passed through a series of demolitions and reconstructions. (See Cosmogony.)

The foregoing scarcely contains the gist of the article in the complete Encyclopædia Britannica, which is several times longer. The form we have reproduced is found identical, word for word, in two editions issued by different publishing houses, and dated 1892 and 1898. Evidently the earlier scissored edition served in some respects as a model for the later. Turning to article "Cosmogony" we find it said in one of these editions (the other had the forethonght to leave it out) this statement: "The story of the flood, the two elements of which the extant narrative is composed, and the parallel traditions of other nations, particularly of the Babylonians, have been spoken of in the article Deluge."

It should be said, however, that in respect to some of the Biblical articles in these scissored editions, they are of a fairly satisfactory length, such as Bible, Canon, Israel. But why this shuffling treatment of the article "Deluge" in the distinctive American encyclopedias? We will suppose that in the later eighties or early nineties of the last century some one who had the complete Britannica had asked an explanation of one of the editorial staff of these works. Acting as spokesman for all of that class, he might have replied:

"Our works are intended more for the common or middle class of the American people, including most church members, than for the comparatively few scientifically educated class. Consequently, in regard to Bibllical subjects, we have to conform, in some measure, to what we suppose is still popular opinion as well as to what is the general trend of theological literature. On some subjects, no doubt, the popular masses are being wrongly educated by our average

literature. You cannot argue some of their inherited beliefs down for they have to be outgrown. Each new generation in this country abates something of the ideas of the previous generation. Of course we understand perfectly well that Hugh Miller's explanation of the Flood could not stand critical and scientific examination for a moment in the light of present knowledge. You may call it intellectual dishonesty if you so chose, but, observe, we neither maintain nor deny the narrative. A work may be critical, apologetic or neither. Really, we cannot very well help matters, but may as well await a time when the public becomes more intellectually advanced than now. In fact, there is already an intellectual movement in progress, so deep beneath the surface that only the intellectual classes perceive it, which early in the coming century is going to result in certain radical changes of opinion."

In closing these references to the nineteenth century attitude of American encyclopedias concerning the story of the deluge, we may refer to a work of nearly a hundred years ago, called Ree's Cyclopædia. It was published in London, beginning in 1819 and comprised 89 large volumes. Its pages were in double columns in type about the same size as is here used on this page, and the columns were of about the same width. Its article "Deluge" filled about 22 columns, and the topic was treated from every point of view concerning which questions had been raised, some of which anticipated Hitchcock and Hugh Miller. The writer mainly quoted eighteenth century opinions, yet seemed to be too well informed concerning difficulties to be able to escape a certain degree of embarrassment. While regarding the narrative as strictly historical, he finally

said: "After all, whatever might be the instrumental physical cause of the deluge, and whatever might be the mode of its operation, we must on this occasion have recourse to a divine interposition and energy."

Another class of popular works which have occasion to deal with the story of the Deluge, are the so called "Bible Histories" of selections from the narrative parts of the Bible, written in easy language, more for young people than adults. Though explanations may often be made, their writers seem to be oblivious of critical and physical difficulties. Below is an extract from one of them. In the light of the preceding pages, or even of a school physical geography, its impossibilities need no particular comment.

"It required a long time to construct so large a vessel, and we may imagine how earnestly Noah sought to convert the people from their wickedness during the time of its building; but they were so corrupt that none gave heed to the warning. When, at length the ark was completed, God commanded Noah to enter, together with his wife, sons, and their wives, and two of all creatures, both great and small. Seven days thereafter a great rain began to fall, which continued for a period of forty days and as many nights. The waters rose rapidly, and the wicked people and the creatures that were doomed to destruction fled their homes and caves and sought high places out of reach of the waters. But little did this avail them, for the flood rose higher and higher, covering first the plains, then the hills and at last the highest mountain tops, so that everything perished not housed within the ark, and the world became still with death and desolation. Not a thing was visible save Noah's vessel, which alone rode the waves that rolled unfretted over the wide, wide shoreles waste, with nothing to break their force against."

IX.

ANTHROPOLOGY AND MODERN THOUGHT.

ALTHOUGH the subject of Anthropology has a bearing on the narrative of the Deluge in more ways than one, it raises questions that we have never seen met in any literature which makes any pretension of dealing with the Flood story as an historical event. In this connection five questions arise. 1. The great ages of Noah and his family. 2. The childlessness of Noah's three sons until after the Flood. 3. The deriviation of all nations of diverse color from a single family. 3. Ham, as the progenitor of the Negro races. 5. The great antiquity of Prehistoric Man coupled with his low stage of culture, particularly the older Palæolithic divisions.

In regard to the great ages of the persons represented as antediluvians, the ancient nations supposed them to have comprised either seven or ten generations. From Adam to Noah there were ten generations according to the Hebrew version. Commenting on the fifth chapter of Genesis, H. G. Mitchell, after giving substantial reasons showing that at this period supposed to be covered by its genelogical record men lived no longer than now, goes on to say:

"These considerations show that from the strictly historical stand-point, the chapter is of little value. In realitity it is a more or less artificial scheme, probably suggested by the list of mythical kings who reigned before the Babylonian Deluge, by which, in the absence of actual data, the author undertook to connect his doctrine concerning the origin of world with the more historical parts of his narrative. It is not, however, a

mere genealogy, but as has also been shown, suggests, and was designed to suggest, ideas that made it of value to those for whom it was written. Indeed, in its original form it contained instruction on all the principle religious questions covered by the two preceding chapters. It taught the unity of the race."*

Elwood Worcester, before quoted, remarks: "The most liberal physiologists estimate the extreme longevity of the human race at about two hundred years; probably no human being has ever attained that age. But to the fable that human life may endure nine hundred or nine hundred and fifty years, physiology will not listen."

The last verse of the fifth chapter of Genesis reads: "And Noah was five hundred years old: and Noah begat Shem, Ham, and Japheth." If this means that Noah was fully 500 years old when Shem was born, and it does so mean (xi. 10) then the latter was about 100 years old at the time of the Flood and childless until two years after. And so with Ham and Japheth. We presume that the increase of a progenitor 600 years after his birth is capable of some sort of calculation, but we will only remark that the record is so widely at variance with the course of nature in relation to man, that it is no wonder that the best Biblical scholars should feel constrained to pass these chapters into the domain of the unhistorical.

As to the deriviation of all nations from the Noachian family. Louis Agassiz, a noted Swiss naturalist, took up his residence in this country in 1846. Impressed with the view that all nations, diverse in color and characteristics, could not have originated within five

* The World Before Abraham, p. 189.

thousand years, published an essay about the middle of the century advocating the deriviation of each of the specially marked races of mankind from separately created pairs. That is each race had its own Adam and Eve. This essay stirred up some of the theologians who attempted replies. Of these, Hitchcock said at that time: "I have not read them all. But in respect to those which I have read it has seemed to me, without having the least sympathy with the views of Professor Agassiz, that the authors have not the most remote conception of the principal arguments on which he relies, derived from zoology and comparative anatomy; nor do I believe that they can understand and appreciate them until they have studied those sciences."

In 1869, when the question of man's antiquity had begun to attract some attention in this country, Dr. Thompson of Philadelphia discussed the subject in a small book intended for students and other inquirers. Taking the more extended chronology of the Septuagint version, he endeavored to ascertain whether the facts, as then known, could be made to fit into this longer system of chronology. He stated that if man had been on the earth as much as 10,000 years that amount of time defied Biblical chronology. Evidently the question of diverse races had its perplexities, as shown below.

"The unchanged appearance of leading types of mankind, as far back as we can trace these in history, requires a considerable extension of time to account for their origin, provided we adhere to a physiological unity of the race. Upon Egyptian monuments that date back from one thousand four hundred to two thourand years before Christ, the Negro is depicted with color and features as marked and characteristic as he exhibits at this day. When did this type originate, which has remained

unchanged for more than three thousand years? If the type itself was a gradual product of time, how much time, before the date when it begins to appear on Egyptian monuments, was necessary to establish marked and unvarying features?

"If all mankind were descended from a single pair,—and again, if the whole peopled earth was destroyed by the flood, with the solitary exception of the family of Noah,—how much time was required to originate peculiarities of race which can be traced back without variation through the whole known course of history? In the present state of scientific knowledge, this whole subject is wrapped in obscurity."

As was indicated in the extract from Mitchell's book the early chapters of Genesis bear marks of having been worked over and the position of some of the matter in them shifted to other connections. Thus the "story of the vine" (Gen. ix. 20-27) which includes the curse of Canaan, is thought to have been told and written originally without any reference to any flood story and to have followed Lamech's prophecy concerning a comforting gift (presumably the discovery of wine) to come from his son Noah (Gen. v. 29), a verse also suspected of having been shifted out of an earlier context.

The table of nations, chapter tenth, is thought in its original form to have been an attempt to account for the tribes and nations known to the Hebrews according to affinities of language, nor even in its present form does it extend beyond the three great divisions of the white race, Semitic, Hamitic and Aryan.

In Slavery days in this country the fiction that the African Negroes are of the posterity of Ham, was encouraged as some justification of the national crime of Slavery. In the later seventies Prof. Alex. Winchell characterized such belief to be an absurdity. About

that time a few of the more advanced theologians held the view that the Bible had to do with the white race only, the black, red and yellow races being given up as people concerning whose origin nothing certain is known. In 1880 Prof. Winchell published a book entitled: "Preadamites, or a Demonstration of Men before Adam." In speaking of the impossibility of the evolution of the black races from those of a ruddy or light color within a period to which traditions supposedly go back, and that Negroid races are not Hamitic, he said:

"If this conclusion disturbs widely accepted beliefs, it is evident, prima facie, that those beliefs ought to be disturbed. In the light of the conclusion they are beliefs in falsehood, and the maintenance of them discredits both the individual and the common creed. I may add that Science, as such, feels no concern over such disturbance. Adjustments to dogmatic faith are the work of those who undertake to defend the faith."

The foregoing is a question of Ethnology, To return now to Anthropology or rather Prehistoric Archæology. Attempts were made by Dr. Schmerling of Liege in 1834; by M. Boucher de Perthes of Abbeville in 1846 and 1847; and by Dr. Rigollet of Amiens in 1853 by the publication of their researches in caves and terraces of the river gravels, to convince the scientific world of the validity of three points in regard to man in Europe, which were these: 1. That man existed on that continent in the drift age. 2. That he had been contemporary with the great Quaternary animals that became extinct at the close of that age. 3. That the earliest traces of man, at least in Europe and probably in all countries, indicated a state of primeval savagery. Those were the logical conclusions to be drawn from

these researches even if at first they were not wholly maintained. Isolated discoveries had been made at times in the early days of Geology, but though they excited curiosity and occasionally speculation, their significance was not understood. In England, Godwin-Austin made some digging in 1840, in Kent's cavern below a floor of stalagmite, and found human implements in association with the bones of extinct animals, and he was satisfied that all were contemporary, but his published account of the matter attracted little attention. The English geologists were not ready to receive such revolutionary evidence, not that they were ignorant of the Belgian and French publications. In the fifties they merely discussed matters, but in 1858 the discovery of the Brixham cave began sending them across the Channel to Abbeville and Amiens, resulting about the year 1860 in a sudden change of opinion.

The evidences of the science are such that its facts are continually accumulating. When Sir Charles Lyell published his "Geological Evidences of the Antiquity of Man" in 1863, and Sir John Lubbock his "Prehistoric Times" in 1865, neither of these writers understood the real character of the Glacial Period, and could present only a simple classification of implements and remains which Lubbock divided as follows: Palæolithic or Old Stone Age, in which implements were roughly chipped; Neolithic or New Stone Age, in which an advance was made to grinding, polishing and fine chipping of stone implements; and the Bronze Age, shading into the use of iron. These ages were supposed to be successive and are such for Europe, though the late Neolithic blends into the Bronze age, which precedes the historic period. For the one Glacial Period of Lyell's time we

now have to reckon with four Ice epochs and as many as three interglacial epochs. Moreover the long Palæolithic age has decomposed into as many as six subdivisions. Below is a table which fairly represents modern classifications.

EOLITHIC AGE.

Pliocene and First Glacial Epoch.

First Interglacial Epoch.

Elephas meridionalis and antiquus; Rhinoceros etruscus. Types of flint implements, if they are such: Reutelian, Mafflian, Mesvinian, Strepyan.—Remains: Pithecanthropus erectus of Trinil, Java; Jawbone of Mauer; Galley Hill Skeleton (?).

PALAEOLITHIC AGE.

Second Glacial Epoch.

Second Interglacial Epoch.

Elephas antiquus; Rhinoceros hæmitichæus and tichorhinus; Hippopotamus, Machædorus (sabre toothed tiger); Cave Lion; Hyena; species of Deer, etc.—Types of implements: Chellean, Acheulean, Mousterian. Piltdown skull, (Acheulean ?) Taubach teeth, Krapina and other scant remains.

Remarks. —In the Acheulean epoch the climate began to grow colder. The Mousterian or Neanderthal race seems to have lived at the beginning of the Third Glacial epoch and to have endured long into, if they did not survive that ice epoch. Thus far there is no trace of the use of the bow and arrow.

Third Glacial Epoch.

Third Interglacial Epoch.

Elephas primegenius or Hairy mammoth; Woolly rhinoceros; Cave bear; Hyena; Reindeer; Great Irish elk and

numerous species of deer; horse; urus; bison; musk-ox. —Races: Aurignacian, Solutrian, Magdalenian. End of the Palæolithic Age and of the characteristic Quaternary animals.—Succeeded by the Asylian or Stag Age in which the Magdalenian race disappeared.

Remarks.—Two or three nearly complete skeletons of the Mousterian race have been discovered in France within the present century. The noted Neanderthal skull was found in 1857 and others like it in 1881. This race was rather low in the scale of humanity.—The higher cultured Aurignacian and Solutrian races lived in Europe probably while the Third Glacial epoch was slowly closing, and the Magdalenians later. The Solutrians made beautiful arrow-heads in the form of laurel leaves and the Magdalenians etched pictures of animals on reindeer horn and ivory and painted them on the walls of caves; they also used bone and horn implements. This last of the European Palæolithic races appears to have been swept from that continent by a sudden change of climate inaugurating sharp winters and hot summers.

MESOLITHIC AGE

Fourth Glacial Epoch.

Post-Glacial time for all of Europe.

The Modern Fauna.—During the Fourth Glacial Epoch a people called by archæologists Azilian whose implements approached those of neolithic types, lived in the south of France near the Pyrenees. The rest of Europe appears to have been uninhabited.

NEOLITHIC AGE.

Domesticated animals appear gathered from the Wild. —Shell Mound People of the Baltic Coasts; Hill top sites of England; Swiss Lake Villages.

The Mycenean Bronze Age of the Mediterranean follow-

ed with Megalithic monuments in the West of Europe. The Bronze Age lasted about a thousand years and was then overwhelmed by the Doric invasion about 1000 B. C. Then the use of iron in Europe became common.

A few words may be added in regard to the four known Glacial epochs of Europe. The first is not much known, since the more extensive icesheet of the second Ice epoch mainly obliterated its marks. The second Ice epoch was the longest and its icesheet the most extensive of all, covering a third part of Europe. Its interglacial epoch was presumably longer than any other. The Third Glacial epoch was considerably less extensive than the Second in respect to its ice covered area. The icesheet of the fourth epoch only covered most of Scandinavia, filled the basins of the Baltic Sea and Gulf of Bothnia and encroached on adjacent countries to a limited extent.

The duration of the Quaternary age has been variously estimated, from 100,000 to half a million or more years. Perhaps Rutot is moderate with 139,000 years.

Palæolithic implements have been found in Egypt and some parts of Asia. A recent find in East Africa is a skeleton of Negroid type found deep in the tufa of a prehistoric lake bed, rich in fossil remains. The lake belonged to a Pluvial age in Africa, synchronous with one of the glacial epochs of Europe.

Evidently all of the continents were occupied by the human race in an age vastly anterior to any date at which a literalist would attempt to place the Deluge. Bishop Stillingfleet despaired of ever seeing it proved that the whole world was occupied before the Flood. That was in 1662, and Hugh Miller co-incided with him in 1856 and could not then be gainsaid. Even civilization in Babylonia has of late years been carried back to a period 7,000 years ago, probaly in Europe then early Neolithic times. The literalist who holds the deluge

story to be historical in spite of its improbabilities, not to say impossibilities, no longer postulates any date in the remote past for the occurrence of the catastrophe. In fact, such an event, involving the whole human race, cannot be fitted into an anthropological table. There probably has never been a time since the early Palæolithic age that human beings have not existed on all the continents of the eastern hemisphere. The record supposes that at the time of the Deluge, bronze and iron were in use, and that ten generations of men had lived since the creation of the world.

There have been, and possibly may be found still particularly among Pastor Russell's sect, persons who maintain that there was no rain upon the earth until the Deluge, and consequently no rainbow was visible until that time. "There are those" says Mitchell, "who undertake to defend this opinion. Few modern readers, however, will believe that the laws of light and the properties of the atmosphere were so different before the Flood from what they have been since, that in that early period a rainbow never followed a shower."

In the light of Geology, with its evidences of rain, snow and ice, and pluvial conditions, the notion mentioned is simply absurd. As Hitchcock's text-book of Geology is the oldest one of that science we can quote, we shall refer to it in the present connection. He devoted several pages to the sublect of fossil impressions in stone of animal tracks and raindrops.

"It is a most interesting thought, that while millions of men, who have striven hard to transmit some trace of their existence to future generations, have sunk into utter oblivion, the simple footsteps of animals, that existed thousands, nay,

tens of thousands of years ago, should remain as fresh and distinct as if yesterday impressed; even though nearly every other vestige of their existence has vanished; nay, still more strange, is it, that even the pattering of a shower at that distant period, should have left marks equally distinct, and registered with infallible certainty, the direction of the wind!"

The ark is said to have been pitched within and without and only one window a cubit square is mentioned. However, some have thought this to mean a space a cubit in width under the eaves on both sides of the ark. But this would only have given light and air to the upper story, leaving the two lower ones close and dark. How could eight persons have taken care of the animals for a year? The ark is presumed to have been a flat-bottomed vessel merely designed to float. How could such a structure withstand the swells, waves, winds and storms of what was practically an open ocean, without invoking unrecorded miracle? Some say that the Deluge was caused by rain and the rising of the Indian Ocean over the land. What prevented the waters again speedily seeking their level? How, after the cessation of rain were the occupants of the ark supplied with fresh water for nearly a year, unless supposititious miracle be brought in?

Between the years 1898 and 1904 there have been issued two Biblical encyclopedias, each in four volumes that are representative twentieth century works. These are the Encyclopædia Biblica and Hasting's Bible Dictionary. The latter has had added to it since its completion one or two supplementary volumes. Of course they originated in Great Britain, but ware reproduced in New York. The first named work has no page numbers its double columns being successively

numbered, that is, two numbers to a page. Its article "Deluge" is quite extensive, its parts being printed in different sizes of small type according to specialty. The article occupies nearly all of columns 1055-1066, and it dissects the flood story rather thoroughly and along much the same lines as that in the ninth edition of the Encyclopædia Britannica. Of course no attempt is made to defend the narrative historically. On the sides of the columns there are occasional indentures in small black letters, a guide to students in long articles in locating at once special topics that they may have seen a reference to in some text-book. Here are specimens of these topical indentures in the Biblica's article: Babylonian Flood Story—Epic of Gilgamas—History From Berosus—Origin of Deluge Story—P Dependent on J^1.—Rainbow Episode—J^2 had no Deluge Story.

The article "Deluge" in Hasting's Bible Dictionary is not so extensive as the other and has no indentures. The size of type commonly used in this work is similar to the smaller size used in this pamphlet for quotations. The Dictionary, as will be seen from the extract given below, candidly admits the unhistorical character of the deluge story, its deriviation from two writers, etc. The Dictionary is called conservative and the other radical in respect to same of the articles admitted into it. Both are considered standard works, the best of their kind at present extant in the English language.

"That the writers and compilers of Genesis sincerely believed the story we need have no doubt; but in the light of scientific and historical criticism it must frankly be recognized as one of those stories or legends which are found in the folk-lore and early literature of all peoples."

There was published in New York in 1909 a work in twelve volumes called Nelson's Encyclopædia. Its article "Deluge" is not long and it does not pretend to treat the narrative at all as historical. It cites the Babylonian flood legend as containing essentially the same elements and as being an older version than the Genesis narrative. Taking note of the variations in the Biblical account, the article goes on to say:

"It is thus impossible to conctruct from the Biblical narrative anything like a uniform and detailed account of the event. Moreover, the acceptance of the story as literally and historically accurate requires us to postulate a congeries of miracles hardly even to be imagined. Besides this, deluge legends are found in the folklore or early literature of almost every nation, or race of human beings; of these the story of Deucalion may be taken as a type.

Within a year or two past there has been issued an eleventh edition of the Encyclopædia Britannica in 29 volumes. We have not had access to this work as yet, but it can be conjectured that its deluge article is fully up to the modern view-point. No tenth edition of the Britannica was ever wholly completed.

The newspapers usually refer to the Deluge, whenever they have any occasion to refer to it at all, which is but seldom, as if the event were an actual occurrence. We presume this in part is in deference to what the editors suppose is still the belief of church people and the popular masses. (see pp. 120-121.) On the other hand, the modern school books ignore the Deluge and are apparently unconscious that there was ever an alleged antediluvian world—both important points to notice in physical geography and ancient history.

The only text-books used in any of the theological colleges that have come in our way, are the work of Prof. Mitchell already quoted; a work on textual criticism and Bennett & Adeney's "Introduction." The latter work says: "In other cases, as in the chapters on the Creation, the Fall, the Flood, etc,, the narrative is held to be a kind of parable or allegory, rather than actual history. Again, when we recognize that we have parables and not history, we incur no loss of spiritual teaching; we change the form in which the lessons are taught, and perhaps we add to their force and significance."

Rev. Dr. Aked, formerly of New York, but now of San Francisco, was quoted by the press as stating in a New York pulpit his candid opinion in regard to the historicity of the deluge story, characterizing it as a myth no longer believable by students of history and science, and added:

"We gain and do not lose when we try to learn the inspiring lessons of those myths in the Bible. At least two great truths they teach—there is only one uncreated God, and the individual conception of a restored race on a renovated earth."

X.

THE BABYLONIAN DELUGE LEGENDS.

When Dr. J. W. Draper published "The History of the Conflict Between Religion and Science" in 1873, he could assign the authorship of the Pentateuch to Ezra and five companions. Speaking of the tile libraries of Assyria, he stated: "From such Assyrian sources, the legends of the creation of the earth and heaven, the garden of Eden, the making of man from clay, and of woman from one of his ribs, the temptation by the serpent, the naming of the animals, the cherubim and flaming sword, the Deluge and the ark, the drying up of the waters by the wind, the building of the Tower of Babel, and the confusion of tongues, were obtained by Ezra."

"It is affirmed that one such legend, that of the Deluge, has already been exhumed, and it is not beyond the bounds of probability that the remainder may in like manner be obtained."

What Dr. Draper in 1873 regarded as probable has in some measure since been realized. Two or three other deluge legends, variant and mutilated, have been found, also a picture supposed to represent the temptation, and recently it has been announced that among the tablets brought from Nippur by the University of Pennsylvania is a record containing an account of the creation and the temptation and fall of man. While the making of the world and animals is represented as the work of the gods, a goddess (Ishtar?) created man. When Prof. Orr published the book we have hitherto

quoted, he stated that no Babylonian account of the fall of man had been discovered which was true at the time. Doubtless other discoveries bearing on the book of Genesis are in store for the future.

Forty years ago it was the opinion of some Biblical scholars that the Hebrews knew nothing of deluge legends until the Captivity and that they were brought to Palestine at the time of the Return. This view is no longer tenable, since the Jehovist had the story in a well developed form as early as 800 B. C., and this implies that it may have been in existence much earlier, possibly in the reign of Solomon. Deluge legends are now supposed to have been introduced into Palestine (i. e. among the Canaanites) about the time of Hammurabi, 2100 B. C.

From whence did the Jewish nation obtain their version of the story of the Flood? In the first place it is evident that the Babylonian and Hebrew legends are not wholly independent of one another and that the former is the older. Two views of the matter may be cited. The first is that the Babylonian legends had already become current and in written form among the Canaanites long before the Exodus and that when the conquest of Palestine had been effected, the Hebrews took them over, gradually purifying them from their original polytheistic elements. The other view is that as the ancestors of the Hebrews migrated from Babylonia, they took the legends with them at that time.

Prior to the early seventies there were no deluge legends known that had been derived from clay tablets. But one had come down through Josephus and Eusebius that had been derived originally from Berosus, a

priest of Babylon who lived in the time of Alexander the Great and later, and wrote a history of Babylonia for the Greeks. This work is lost except some fragments which were preserved, because Berosus' work chanced to be quoted by later writers. Probably neither Eusebius or Josephus ever saw the complete work but used intermediary writings. Josephus knew of seven authors who, before his time, had written concerning a deluge. A break seems to occur in the midst of Berosus' narrative. He is so circumstantial that it does not seem probable that he would have omitted the coming on of the Flood. This may be due to a later copyist.

"The deity Kronos appeared to him [Xisuthros*] in a vision, and warned him that on the fifteenth day of the month Dæsius there would be a flood, by which mankind would be destroyed. He therefore enjoined him to write a history of the beginning, middle, and end of all things and to bury it in the city of the sun at Sippara. And to build a vessel, to take into it his friends and relatives, and to convey on board everything necessary to sustain life, together with all the different animals, both birds and quadrupeds, and to trust himself fearlessly to the deep.

"Having asked the deity whither he was to sail, he was answered, 'To the gods;' upon which he offered a prayer for the good of mankind. He then obeyed the divine command, and built a vessel five stadia in length and two in breadth. Into this he put everything which he had prepared; and last of all he conveyed into it his wife, his children, and his friends.

"After the flood had been upon the earth, and was in time abated, Xisuthros sent out birds from the vessel, which, not finding any food, nor any place whereupon they might rest

* Xisuthros, Greek name for Adram-hasis, one of the Assyrian names for the Babylonian Noah.

their feet, returned to him again. After an interval of some days, he sent them forth a second time, and they now returned with their feet tinged with mud. He made trial a third time with these birds, but they returned to him no more; from which he judged that the surface of the earth had appeared above the waters. He therefore made an opening in the vessel, and upon looking out saw that it was stranded upon the top of some mountain, upon which he immediately quitted it with his wife, his daughter, and the pilot.

"Xisuthros then paid his adoration to the earth, and having constructed an altar, offered sacrifices to the gods, and with those who had come out of the vessel with him, disappered.

"They who remained within finding that their companions did not return, quitted the vessel, with many lamentations, and called continually on the name of Xishthros. Him they saw no more, but they could distinguish his voice in the air, and hear him admonish them to pay due regard to religion; and likewise he informed them that it was on account of his piety that he was translated to live with the gods, and that his wife and daughter and the pilot had obtained the same honor. To this it was added that they should return to Babylonia, and as it was ordained, search for the writings at Sippara, which they were to make known to all mankind; moreover, that the place where they then were was the land of Armenia. The rest having heard these words, offered sacrifices to the gods, and taking a circuit, they journeyed toward Babylonia.

"The vessel being thus stranded in Armenia, some part of it yet remains in the Corcyræan mountains of Armenia; and the people scrape off the bitumen with which it was outwardly coated, and make use of it by way of an alexipharmic and an amulet.

"And when they returned to Babylon, and had found the writings at Sippara, they built cities and erected temples, and Babylon was thus inhabited again."

"There is much in this story which reminds us of our narrative, along with much that is foreign. The dry, colorless style bears some resemblance to that of the Priestly Writer, and with reason, for Berosus also was a priest and had the style which distinguishes the priestly annalists in all ages and countries. His narrative is almost monotheistic, in striking contrast to the crude polytheism of Izdubar, but we must remember that it reaches us through the hands of Church historians, who doubtless omitted its more objectionable features. The piety of Xisuthros, his warning by Ea, the building of the ark with its exact dimensions, are all familiar enough. The sending out of the birds is even more conclusive. This is one of those little touches which prove that we are dealing with a different form of the same tradition. The tingeing of the birds' feet with mud is an original feature preserved in no other tradition. The landing on a mountain in Armenia, the erection of an altar, and the offering of sacrifices also perfectly agree with our account."*

There is also an account of a deluge by Abydenus, but it is mainly based on Berosus' narrative of which it appears to be a shorter form. It is not known when this writer lived; some suppose in the first or second century. Eusebius has preserved his account.

In the year 1843, Emil Botta, French consul at Mosul, in digging into the mounds of Khorsabad, near the site of Nineveh, discovered the remains of the palace of Sargon, the Assyrian conqueror of Samaria. In 1847 Sir Henry Layard began excavating the site of

* E. Worcester, Genesis in the Light of Modern Knowledge, pp. 330, 381.

Nineveh and unearthed the remains of four palaces of the Ninevite kings. In 1845 he had taken to England an Oriental boy named Rassam to be educated. In 1854 another expedition was sent to the ruins of Nineveh, accompanied by Rassam. This expedition unearthed 3,000 tablets which were brought to London and stored in the British Museum. Little or nothing was done with them until 1867 when George Smith, the Assyriologist of the Museum, took them in hand and found that they had belonged to King Assurbanipal's library. This monarch was of Biblical times and reigned 668-626 B. C.

In 1870 George Smith found in the collection twelve tablets containing what is called the "Epic of Gilgamesh" or Izdubar, a long poetic narrative, or series of them, loosely strung together. In part it concerns the adventures of Gilgamesh and companions in anything but natural worlds, while in search of an elixir of life. The epic contains accounts of the Creation and of the Flood, according to the rather free handling of a Babylonian poet of about 2,000 B. C. The flood legend is contained in the eleventh tablet, is nearly complete and had 205 lines, long enough to about fill six pages of this pamphlet.

According to the epic the goddess Ishtar sought to wed Izdubar, also called Gilgamesh, but was rejected by him. In revenge the goddess smote Izdubar with a disease the physicians could not cure. The friends of Izdubar then advised him to seek relief in other lands, including the under world. The Babylonians conceived of an "Island of the Blessed" located afar south in the Indian Ocean. At one time in his wanderings Izdubar and companions approach in a boat this dwelling place

of gods, but at first was not permitted to set foot on shore. There came to the edge of the sea, Sit-napistim,* the translated Xisuthros of Berosus' narrative, who, with his wife occupied the island, which appears as if quite extensive. Izdubar standing in the boat, converses with Sit-napistim and asks for two things, to be healed of his disease, and to obtain the balm of the plant that insures perpetual life on earth. He is told that he cannot obtain either. Izdubar now asks Sit-napistim how he, a once mortal of earth, came to live in a region of the gods and to be favored with perpetual life. Sit-napistim then relates the Flood story, in general similar to Berosus' account, but more prolix and with variations from it. We can only give a few extracts.

Said Ut-napishtim* to Giigamesh:
I will reveal to thee, Gilgamesh, a precious matter,
And the decree of the gods I will relate to thee,
Surippak, a city known to thee,
Lying on the bank of the Euphrates,—
When that city had become old, the gods in its midst,
The great gods, were moved in their hearts to cause a flood.

The flood is represented as having been brought on the earth by Marduk or Bel,† the god of the land, and other gods conferring with him. These gods had been dwelling in Surippak, the seaport city of Babylon, and were aware of the wickedness of the inhabitants, if that were the cause of the meditated destruction. But Ea, the god of the waters, was not consenting to this pro-

* Sit-napistim, Ut-napishtim and Pir-napishtim, different spellings of the name; also Adram-hasis, Khasis-adra (Gr. Xisuthros.) † The Baal of the Old Testament.

posed annihilation of the inhabitants and therefore he sought to warn Sit-napistim of the coming flood by indirect means, since he did not wish to act openly for fear of being accused by the other gods of an act of treachery. He therefore called out in Sit-napistim's hearing: "Fields, fields, hut, hut, take warning!" After this, Ea began instructing Sit-napistim in dreams to build a great house-boat. Then Sit-napistim prepares to obey instructions, but does not forget to ask, "What shall I answer to the town, the people, and the elders?" He was told to convey to them in guarded language warning that a dire calamity is impending during which the sea would be safer than the land.

In this part of the epic two lines are gone and a little farther on eleven other lines are missing; the next nineteen are partially defaced, leaving a number of the words here and there open to conjecture as to what they may have been. It appears from what can be deciphered that Sit-napistim built a great house-boat six decks high (with the hold seven stories), and stored in it all of his movable possessions, all kinds of seed, his silver and gold, provisions, the flesh of slaughtered oxen and sheep, and living animals. The vessel is said to have been smeared outside and inside with bitumen.

There are several translations of the epic, sometimes merely in prose form, and we will presently give both forms of one and the same passage for comparison. The translations endeavor to hold to the sense of the ancient writer, however the phraseology may differ when expressed in a modern language by different translators. The next extract we only have at hand in prose form, concerning Sit-napistim's last preparations, a warning of danger, and the final entering of the ark.

I took into the ship my whole family and my servants, cattle of the field, animals of the field, hand-workmen. I brought them all together. Samas gave an appointed sign: "When he who sends the whirlwind sends in the evening a terrible rainstorm, then go into the ship and shut the door." The sign was fulfilled. He who sends the whirlwind sent at night a fearful storm. Before the day dawned I trembled, I was afraid to see the day. I entered the ship and shut the door. I gave the care of the ship to Pusur-Bel, the pilot. The great ark I entrusted to him.

As in the account by Berosus the vessel needed to be navigated and therefore required a pilot. This might not occur to an inland people, such as were the Jews. The next passage pictures the oncoming of the flood, which we present, first in a versified form and following that, in its prose form. The Babylonians had a large number of deities, some of which take part in the conflict of the elements, together with the storm spirits.

As soon as morning brighteneth
There riseth from the horizon a dark cloud.
Ramman in the midst of it roareth;
Nabu and Marduk go before,
As heralds they go over mountain and plain.
Uragal looseth the tarkûlli;
Nibib goeth forth, beginnith the conflict;
The Annunaki bear torches [lightning]
With whose brightness they make the land glow;
Ramman's fury reaches to heaven
Turning every bright thing to darkness.
Like a battle upon men . . . . . .
One seeth not another;
Men are not recognized in heaven.
The gods fear the flood;
They flee, they climb to the heaven of Anu.

"Nibib stepped forth, swam over the banks. Ramman's swelling waves rose to heaven. All the light was turned to darkness. . . . . like a destroying storm the elements bore down on men. Brother could not see brother, men were not regarded in heaven. The gods themselves were terrified at the flood, they fled, mounting up to the heaven of Anu."

The storm which the chief gods are represented to have brought about to destroy Surippak seems to have gone beyond their control and to have become universal, so far as the Babylonians conceived the world to extend. The other and inferior gods become terrified and leaving the earth, take refuge in one of the highest heavens, of which seven or eight were conceived to exist, one above another. In this refuge these gods are represented as bewailing the destuction on earth. The goddess Ishtar, however, is rather furious, described either as blaming herself for consenting to the flood or blaming the chief or "great gods" for what they had done, the meaning of the poet not being clear at this point. But it is plain that Ishtar complains that her part in the creation was being brought to ruin. "What I have brought forth, where is it?" Sitnapistim is next represented as describing his feelings and acts while the storm raged outside his vessel and then gradually subsided.

Six days and six nights the storm raged on, the flood, the violent rain. When the seventh day came, the flood and the rain ceased. The storm that had fought the fight like a war chief, rested. Tho sea became narrower, the hurricane, the flood storm, came to an end. Then I looked across the sea, let my voice go forth, but all men had returned to earth. I opened the hatchway; light fell on my face. I sank back, sat down and wept. Tears flowed over my face. I looked

around; the world was a broad sea. Land rose twelve ells high. Toward the mountain land Nisir the ship took its course. The mountain land Nisir held the ship fast and would not let it move from its place.

The next passage concerning the sending out of the birds is so strikingly similar to the corresponding episode in Genesis as to be unmistakable. In Genesis the order is, first, the raven which did not return; then three times the sending out of the dove, the last of which it did not return. In Berosus there are three sendings forth of birds, the kinds not being specified. In the older Babylonian account, we have the birds sent forth three times, each time of a different kind.

When the seventh day arrived,
I brought forth and released a dove;
The dove went, it returned;
There was no resting place, therefore it came back,
I brought forth and released a swallow;
The swallow went, it returned;
There was no resting place, therefore it came back;
I brought forth and released a raven;
The raven went, and when it saw that the water was drying up,
It ate . . . . but it did not come back.

The debarkation and the usual sacrifice of the deluge legends now takes place. "The gods smell the odor and gather like flies." Ishtar is there and swears by her necklace that she will not forget the recent calamity. "By my necklace, I will not forget it," and she forbids Bel to come near Sit-napistim's altar, "because he rashly caused the flood to arise and gave my men over to judgment." Bel is represented as being furious at finding that so many had survived his deluge. He

exclaims: "Hath then any soul escaped? Not a man should have escaped destruction." Bel next accuses Ea of treachery, and conditions seem open for a quarrel among the gods, but Ea makes a mollifying speech and makes a plea that if the wicked are to be punished in the future, let it be by pestilence, famine or beasts of prey rather than by a sweeping flood. Bel now relents and tells Sit-napistim and his wife that they are worthy to be translated to the region of the gods. "They took me afar; at the mouths of the rivers [or far beyond] they caused me to dwell."

Here the most circumstantial of the Babylonian flood legends thus far discovered, ends. This part of the story falls by far of the elevated tone of the Hebrew version—the rainbow episode, the promise that a flood shall not again desolate the earth, and God's covenant with Noah. From the freedom of expression and lack of reverence toward the gods of Babylonia, the suspicion is begotten that even in that remote age, some 2000 B. C., the literary men of that country either doubted or disbelieved in the deities concerning whom they wrote.

To return briefly to Izdubar. Although he was told by Sit-napistim that he could not obtain the two things he had come to seek, he nevertheless obtains both thru the contrivance of Sit-napistim's wife. After a hypnotic sleep of six days he is given a magic food to eat; after which he bathes in a spring and is healed of his disease. Izdubar and his boatman now make a long journey inland to a place where the Tree of Life grows, or as it is called in the epic, "the plant that makes an old man grow young again." Izdubar obtains something from this tree by piling up stones to reach it and

with his boatman starts back for the seashore. On the way Izdubar stops to drink at a well, and seeing a snake he is so startled that he drops from his hand his precious possession; the snake, an evil spirit, snatches it and vanishes. Seemingly the tree can be visited but once, and so Izdubar returns disconsolate to the vessel, conscious that he cannot obtain perpetual life on earth, and sets sail for Surippak.

Another fragment of a deluge legend came to light in 1897 and was discovered by Father V. Scheil among some tablets at Constantinople that had been brought from Babylonia. It is only a fragment and the lines even of that are not entire. It was written by a scribe of Sippara. "It purports to have been inscribed in the reign of King Ammizaduga (about 2140 B. C.), and as it is a copy, no one can say how old the original Flood story may be." The following is the most legible part of the Scheil fragment:

Ea spake the word and said to me, "Why wilt thou make men to die . . . I will reach out my hand to men . . . The deluge of which thou speakest . . . whatever it may be I . . . I shall have produced (in vain?). He shall be informed of it . . . to the end that he build . . . and he shall beget . . . that they may enter (into the ship) that Pir (napistim take) the oar that he may come

Neither this fragment nor the broken lined one that follows seem of much account in comparison with the detailed narrative of Berosus and that contained in the Epic of Gilgamesh, as the two fragments seem to add nothing to what is known from them. In 1909 Prof Hilprecht of the University of Pennsylvania, while looking at some tablets brought from Nippur, took up a broken off piece, all that was left of one supposed

to have measured 7 by 10 inches. The fragment preserved part of twelve lines of one of its columns, the top line not being legible. Looking at the fragment he caught sight of the word "a-bu-bi" (deluge) in cuneiform characters. Prof. Hilprecht places its date at about 2100 B. C. The following is what has been made of it without filling in any conjectural missing words.

2. I will loosen
3. it shall sweep away all men together
4. before the deluge cometh forth
5. as many as there are I will bring overthrow, destruction, annihilation.
6. build a great ship and
7. total height shall be its structure.
8. It shall be a house-boat carrying what shall be saved of life.
9. with a strong deck cover it.
10. which thou shalt make.
11. bring the beasts of the field, the birds of heaven
12. instead of a number
and the family

It is evident that at an early period the deluge legend had branched out into various versions; that when put into inscribed form, where no older copy was followed, while the supposed general facts were adhered to, each scribe varied the details much according to his own fancy. The deluge story is thought to have been of Accadian rather than of Semitic origin. The ultimate origin of the story itself is uncertain. One says that a deluge legend anywhere, not based upon some local flood, is part of primitive man's cosmogony. Another has suggested that the Babylonian story was elaborated from an astronomical myth. Others think that the

story may have had its origin in inundations of the Euphrates valley. Lastly there is the supposition that a tidal wave from the Persian Gulf may have destroyed Surippak and thus given rise to a story that subsequently became spread over western Asia.

In his book, "The World Before Abraham," Prof. Mitchell gives a running commentary on the Biblical story of the Flood, the text being printed in different sized type to indicate different sources, and then gives a general summary of the whole which we reproduce below. He readily concedes the fact that the Babylonian account must be the oldest.

"The above discussion has made clear that the Hebrew story of the Flood is composite, and that the two accounts interwoven to produce it present important variations. Incidentally it has been shown, also, that the Babylonian story is a third account of the same event, differing in some respects from both, but most from the later of the others. This last, being the oldest of the three, and therefore nearest to the event which they all describe, must be taken into account in any attempt to determine the real nature of that event and the date of its occurrence. Now although this story, also, in its present form represents the Flood as having destroyed all mankind except the occupants of Ut-napishtim's vessel, there are indications that the original catastrophe was the destruction of a city called Surippak, on the lower Euphrates. It is therefore probable that a local inundation was the common foundation of the three accounts. It must have occurred long before 2348 B. C., the date of the Flood according to the Priestly narrator, as appears from the fact that the hero of the event is one, the last, of the ten kings of the prehistoric period. This means that neither of the three accounts can be regarded as historical. It does not, however, mean that they are all alike

valueless. When they are composed as vehicles of moral and religious instruction, the superiority of the Hebrew accounts is at once apparent. The Babylonian story is polytheistic, and its gods are as capricious, jealous, and as quarrelsome as those of the other ancient pantheons. Its hero is a favorite of one of these divinities. The Hebrew tradition, on the other hand, even in its oldest known form, is thoroughly monotheistic, and its God is a being whose character commands instant and unmixed reverence."

Some one has said, "If it is heresy to think ahead of one's time; is it not heresy to think behind one's time?" In regard to changes of opinion on some Biblical topics, like that necessitated by Geology, there are always those lacking in a broad scope of intelligence, who cling to the older view long after its abandonment by the majority of reasoning men. In view of the abandonment of the narrative of the Deluge as a historical circumstance by the later encyclodedias, both secular and biblical; by some of the theological college text-books like those we have quoted; by scientific and much other literature, and by many intelligent preachers, we see no use in adhering to it in religious teaching or in Sunday School literature, as if it had been a real occurrence. The school boy does not find anything in the early chapters of Genesis confirmed in his school books, as these chapters present matters, a deluge and an antediluvian world being altogether ignored. Commend the narrative as a great moral and religious story, not historically true to fact, given for the lessons that it teaches, and no objection need be urged to its use in the Bible class or Sunday School in that way.

APPENDIX.

Prof. Wright's Theory of the Deluge.

Sometime in the middle eighties Prof. G. Frederick Wright, editor of the "Bibliotheque Sacra," Oberlin, Ohio, was connected with the Glacial Division of the U. S. Geological Survey. In the summers of 1884 and 1885 he was engaged in surveying parts of the glacial boundary in the United States. In 1889 he published a book entitled "The Ice Age in North America and Its Bearing on the Antiquity of Man." Altho the majority of geologists in this country then held the view that there were evidences pointing to more than one glacial episode, Prof. Wright rejected that view altogether and contended for one Ice age only, though admitting the possibility of vicissitudes other than the phenomena of the recession; but so great has been the accumulation of glacial data since the time mentioned, that his contention has been abandoned by all geologists, including, presumably, Prof. Wright himself. However, Prof. Wright's book did good service in helping to dissipate what remained of the Iceberg theory as opposed to the Glacial hypothesis, for in the work referred to he hardly allowed any deeper glacial submergences of the land by the sea than for which there exists palpable evidences.

In the year 1900 Prof. Wright traveled through parts of Asia and southern Russia for the purpose of studying the loess loam of the regions visited, and incidentally, perhaps, though one might think it were the principal motive, to endeavor to ascertain whether the loess problem would throw any light on the wide-spread tradition of a deluge. In western China and in Tartary Prof. Wright encountered dust storms which, after his return to this country, he admitted was almost enough to convert him to an acceptation of Richthofen's theory that the loess loam is a wind deposit. In southern Siberia he found

plains covered with loess loam and that the deposit extended up on to the flanks of the Altai mountains and was present on the plateaus of Turkestan and in the region of Mt. Ararat as much as 2,500 or even 3,000 feet above the ocean level. From a Russian geologist Prof. Wright learned that he had found flint implements, burnt stones and bones of extinct animals of Palæolithic age in the loess bluffs bordering the river Dneister at Kief, 57 feet below the surface and 340 feet above the stream. It was upon such data, together with the comparative freshness of the Aral and Caspian seas and Lake Balkash, which have no outlets, that Prof. Wright formulated a theory of the Biblical story of the Deluge, endeavoring to connect it with the Glacial period.

Prof. Wright's theory was substantially as follows: In view of the heights to which he had found deposits of loess loam and gravel he postulated a deep submergence of central and northern Asia and southern Europe during the Glacial period, and more particularly toward the close of this period at which time comparatively rapid elevatory movements of the earth's crust began to drain off from the continents the submerging ocean waters. It should be said that Asia presents no evidences of any general glaciation except locally in connection with mountain ranges. Even Siberia had no general icesheet during any of the Ice periods. Prof. Wright admitted that man was on the earth during the Glacial period, and had spread over a wide area of its surface from some central point of creation in Asia where the climate supposedly remained congenial, before this presumed ocean deluge took place. The disappearance of some of the Quartenary animals together with Palæolithic man, he thought, could be accounted for by a sudden inroad of the ocean waters. "The Palæolithic man of science may well be the antediluvian man of Genesis." Moreover it became convenient to place this presumed end of

the Glacial period as near to the beginning of historical time as possible without hazarding any definite date for the catastrophe.

Prof. Wright is more of a theologian than a scientist, and such persons almost habitually will use the facts of science in ways that the majority of professional men of science would have no inclination of doing, and this, despite all the failures of the past. After his return to this country, Prof. Wright began in the summer of 1901 publishing his views and inferences in several weekly and monthly publications, the style of the articles being varied somewhat according to the nature of the publication. One in McClure's Magazine for June, 1901, was a good type of the whole series.

Somewhat contrary to the principles laid down in "The Ice Age in North America," Prof. Wright inferred a deep subsidence of Asia, as already stated. As to just how this submergence could constitute the definitely described flood of Genesis, he did not make very plain; in fact, his articles seemed to be shaped so as to avoid criticism as much as possible. One might almost suppose from omissions that all that Prof. Wright intended to maintain was that the emergence of the land from its presumed glacial depression below sea level had given rise to the ancient traditions, the Scriptural narrative included. But more than that seems to have been intended. Said one critic: "It is evident that while he does not definitely say that the Genesis story of the deluge is to be accepted as historical, he would have that impression conveyed. . . . His purpose to suggest that the story is entirely historical is evident." Of course there was nothing definitely said about an ark filled with animals and eight human beings floating upon a sea at the close of the Glacial period, though left to be inferred, nor was there any hint given that it had become a recognized fact that there had ensued several glacial periods. As to the close of the supposed subsidence we find him saying:

"In Asia the rapidity of the subsidence spoken of though so great that man could not adjust himself to it, might still have been so slow as to be almost imperceptible. But toward the close this period there were 120 years (specially mentioned in the Bible as a time of warning) in which the movement was accelerated to such a degree that the rising waters gave point to the preaching of Noah. During the last 371 days of this period the catastrophe culminated in the facts specifically related in the Book of Genesis, when the reverse movement began and cleared a space near Mount Ararat on which the ark could rest, and where the race could make a new start under more favorable conditions." (McClure's Magazine article.)

It could be seen at the time the articles were being published by anyone familiar with popular scientific literature or the common principles of the higher criticism, that they were susceptible of some sharp criticisms if not really of the nature of attacks. A publication called "Science" was stated to have handled Prof. Wright's theory rather roughly from a scientific point of view, but we did not see this article.

Prof. Wright sent one of his articles to the New York Independent, a weekly publication in small magazine form. It was given a place in that publication, but handled rather critically in its editorial pages on historical and chronological grounds. The main argument against the theory hinged upon Scripture chronology. Allowing a variance of about a thousand years between the chronology of the Hebrew, Samaritan and Septuagint versions, and "taking the extreme, the flood must have occurred less than 3200 before Christ. The Hebrew Bible makes it only 2350 B. C." This was ruled out on the ground that neither the testimony of Geology nor history calls for any flood at that date. By history, in this case, is meant Egyptian and Babylonian records which mention no deluge other than the utterly mythical one referred to in pre-

vious pages of this work, and which the Babylonians placed as remote as 35,000 B. C., a date remote enough to satisfy a geologist. According to the Independent Biblical chronology, glacial geology and ancient history were all arrayed against Prof. Wright's theory.

Prof. Wright replied to the Independent's criticism in its own pages, confining his points to the question of chronology. He stated that it was doubtful whether there was any Biblical chronology, or that the supposed chronology of patriarchal times was really intended for chronological purposes at all and cited Dr. Green's views, (ante p. 54). Thereupon the editor of the Independent made a second attack upon Prof. Wright's theory, charging him with setting aside Biblical chronology because he could see that it was totally inadequate for his purpose, and he was further accused of striving to perpetuate a myth. In regard to that phase of his theory in respect to Palæolithic man and the antediluvians, it was contended that he had apparently overlooked Gen. iv, 22, which represents that the antediluvians were acquainted with the use of bronze and iron and that the suggestion mentioned was an absurdity.

Prof. Wright's theory involved epeirogenic movements of the crust of the earth within a period which no geologisst who discredited the flood story as mythical would be willing to indorse. Probably the most of such depressions in Pleistocene times occurred at the close of the second glacial epoch when the Black, Caspian and Aral seas were evidently inter-connected, probably for a long period, but too remote in time to serve any such purpose as that here discussed. (See p. 109.)

A few words may be said in regard to the elevation of the loess loam. According to a discussion of the subject by J. Geikie, (The Great Ice Age, 3d Ed.) the loess of middle Europe, where data is most readliy accessible, is both a fluviatile and a wind-blown deposit. In the closing stages of the second

and third glacial epochs, which doubtless involved some centuries in each case, the annual summer melting of icesheets and mountain valley glaciers that had invaded the lowlands, produced floods on a much larger scale than modern ones. In some cases the river valleys are presumed to have been partially filled with snow, ice and fluviatile deposits, and with some subsidence of the land, would have raised the turbid waters to a high level. So far the loess can be counted upon as being a glacial flood deposit. The floods having largely subsided, much of the deposit each year would be exposed to the drying effects of the sun and borne upward in dust storms to higher elevations. In the mountains of Central Europe loess appears to have formed in that way on the sides sheltered from the prevailing direction of the wind, the opposite slopes having been swept bare of it. As the climate changed and vegetation and forests again spread conditions would become the more fixed. In the dryer climate of Asia loess deposits on plateaus and mountain slopes presumably represents wind accumulations of many centuries.

Prof. Wright's theory served as a literary sensation for a while and then dropped out of sight. We have discussed it because it formed an interesting episode in Deluge literature. In 1913 in an article on the Babylonian and Hebrew flood stories he maintained that the deluge of Genesis was caused by the Indian Ocean rising over the land and driving the ark toward the mountains of Armenia. It seems passing strange that any one possessed of a wide scope of archæological and geological knowledge could be found so far along in the new century, maintaining that there was any ark in the case at all, or that Noah, Shem, Ham and Japheth were historical persons.

The Valian Theory of the Deluge.

One of the last works of Isaac N. Vail, said to have been a geologist, was an ingenious booklet in which he advanced the theory that the physical cause of the Deluge was the fall of a vast watery ring from the sky. Vails scheme was one of those efforts of the last century in which an attempt was made in a cosmical way to bring the Biblical narratives of the Creation and Deluge into harmony with modern science, which we have said is an impossible task, since such efforts, as Hitchcock said of the "period" theory of the creative days, in his time, are "strained and unnatural." Vail first published his views, called the "Canopy Theory" in 1874.

Impressed with the view of astronomers that the planet Jupiter is canopied with thick clouds and belts of vapor and its surface probably still in an eruptive state, and the well known fact that Saturn has rings, Vail postulated a similar state of cosmical conditions for the earth in seven stages and endeavored to co-ordinate these with the six days creation and story of the flood in Genesis. That the earth was once in a molten condition and surrounded by an immense canopy of mineral, aqueous and other gasses or vapors is nothing more than geologists have maintained since the days of Hutton and Playfair; but that the last of this canopy finally resolved into the form of aqueous rings, like the rings of Saturn, did not break and come down until the Deluge, and constituted that presumed event, is something that would not be maintained by any practical geologist.

Vail is quoted as saying at one time: "Since then we have the declaration of Scripture that there were waters above and beyond the firmament; since we see waters so placed above the surface of other planets, and since such bodies of water must revolve about the central body, I claim that the earth

in antediluvian times was surrounded by a huge belt of waters; that it was visible to the first inhabitants as the last remnant of waters falling to the earth. These waters originally formed in and repelled from that great laboratory, the primitive earth, skirted the boundaries of a vast and remarkable atmosphere with which the chemist, the geologist and enlightened astronomer are familiar."—"When the aqueous ring began to descend upon earth there must have been in the torrid and temperate zones a down-rush of water, but at the poles a down-rush of snow. This explains why we find in Siberia and other Northern regions bodies of mammoths and other animals that were suddenly engulfed in the ice."—"During the fall of the waters here supposed, on that part of the earth sloping toward the North Pole, there must have been a great rush of the same toward the latter. Everything that could float would be swept thither."

Pastor Russell, who is regarded as a heretic by the regular evangelical denominations (twelve special heresies have been charged against him and his sect) makes use of this Valian theory in one of a set of six volumes called "Bible Studies." Pastor Russell makes the epochs covered by the geological record only of 7,000 years each, which gives to the world at the time Adam was created an age of 42,000 years, which, by the way, is not sufficient to cover the Pleistocene, or Age of Man. (See p. 131.) Pastor Russell is one of those who maintain that there was no rain upon the earth until the Deluge and no rainbow visible until then (p. 132).

Sometime in the latter part of the last century an English writer named Howorth produced a book called "The Mammoth and the Flood," or rather there were two volumes, the first being devoted to accounts of what is known of the mammoth and mastodon by reason of many discoveries of their remains, as preliminary to the other and theoretical volume. The first we were enabled to read, as loaned for that purpose,

but the other book, wherein Howorth presumably elaborated his theory, we never met with. We presume that the few preserved bodies of the mammoth and woolly rhinoceros that have been found enclosed in frozen mud or ice, together with innumerable tusks and bones in other localities in northern Siberia, are suggestive of their having been suddenly overwhelmd by a flood, followed by a sudden change of climate. But it does not follow that such was the manner of their end. In all such theories as those mentioned there is likely to be a failure satisfactorily to account for all known facts and others may soon accumulate, all of which steadily oppose the theory. It follows that they fail to gain the assent of the great body of scientific men and students of science and history, which in the long run, is fatal to any such schemes. Even the "period" theory, skillfully elaborated by Hugh Miller, altho receiving the assent of several American scientists and most church people, has finally gone the way of other such schemes.

It is needless to comment on views like those of Pastor Russell who sets aside the well-established facts of science. But such facts as the inhumation of large quantities of the bones of the mammoth and of several other animals up toward the Arctic coast lands of Siberia and Alaska, and the finding of the undecayed bodies of the mammoth in a few instances in ice or frozen soil, may be an interesting question to discuss. In some instances those who have used such data in furtherance of some theory have merely jumped to a conclusion from the known results, and inferrred sudden disaster to a part of the animal world, whereas the primal causes may have extended over a short geological epoch. Generally geologists have not reasoned in the former way.

In the first place neither Siberia nor Alaska exhibit any signs of having been generally glaciated by icesheets during any of the several ice epochs of the Glacial period, otherwise called the Quaternary or Pleistocene age. In our northern

states five stages or glacial epochs have been distinguished and for Europe there appear to exist evidences of four. In America the last of these glacial epochs, called the Wisconsin stage, was bifurcated by a retreat of the glacial margin, followed by a re-advancement of the ice, in places about as far, in others a little farther than before. In the long continued final retreat of the glacial margin northward it made as many as fourteen pauses or halts, between central Iowa and Lake Winnipeg, each halt having been left marked by morainic accumulations. In Europe the fourth glacial stage presumably corresponded with the Wisconsin stage of North America. We could not expect a repetition of the same phenomena on a different continent though partially synchronous in time. In Scotland the fourth epoch was marked by mountain valley glaciers spreading out in district icesheets; then followed a period of low level valley glaciers and lastly one of high level valley glaciers. Between these recrudescences of both cold, humid and genial conditions two forests had time to grow, fall, and their sites to become peat bogs. Before the close of the fourth glacial epoch southern Sweden became submerged to the depth of 900 feet, the depression probably being connected with the weight of the ice filling the basin of the Baltic, which, when the ice had melted, became a sea connected with the North Sea across Denmark and with the White Sea across northern Russia. When the depressed land had been re-elevated, the Baltic Sea became a fresh-water lake with its surface fifty feet higher than the present sea, which also implies a higher elevation for Denmark for some time.

Now it is not to be supposed that about the period that the mammoth was becoming extinct that Siberia experienced all of these physical and climatic conditions, but evidently some of them prevailed there at the close of the third and fourth glacial epochs. Another phase of Siberian conditions may be illustrated by referring to the course of climatic changes in Middle

Europe at the close of the third and to a less extent, at the close of the fourth glacial epoch. For a long distance to the south of any point reached at the fartherest extension of the glacial margin, the climate was profoundly affected and the former forests had died out. Tundra conditons probably prevailed, such as are common to northern Siberia and northern Alaska. This means frozen soil to a considerable depth, except as thawed at the surface in summer and supporting a sub-arctic vegetation and arctic fauna, much of the land a morass, and creeping movements of the soil where any slope is present.

As the glacial margin retreated northward and the climate of the tundra belt grew warmer, it changed to steppe or prairie conditions, followed in turn by the re-appearance of forests. Before the forests had time to spread the country was visited by dust storms in summer and blizzards in winter. While steppe conditions prevailed in a wide belt of country extending from central Europe westward into France, it was likely visited by sub-arctic species of animals in winter and more southern species in summer. With the smaller animals, each of these climatic stages in the same latitudes—tundra, steppe or forest conditions—had its characteristic fauna that gradually changed as the climate grew warmer. By the end of this steppe climate of Middle Europe in the third interglacial epoch, the mammoth disappeared from that continent, but appears to have survived in Siberia through the fourth glacial stage. With the mammoth, the woolly rhinoceros, etc., there also vanished from Europe its last Palæolithic race called the Magdalenian.

To return now to the mammalian remains of northern Siberia. Those found beneath the tundras may in part belong to the third interglacial epoch, but the most of the remains, including the undecayed bodies, to the close of the last glacial epoch and its vicissitudes marked by climatic changes. The most of these remains occur in the banks of the northwardly flowing rivers and on a group of islands in the Arctic Ocean,

northeast from the mouth of the Lena river. In the time of the mammoth these islands are supposed to have been a part of the mainland and the climate subject to changes, once at least since the close of the fourth glacial epoch, less cold than at present. When the climate was changing to colder, the country appears to have been subjected to driving snow storms in winter, local land floods in the late spring from rapidly melting snows and probably dust storms later in the year. The conditions that brought about the extinction of some species of animals, may, in some cases, have culminated with comparative rapidity, instead of occupying loug periods of time. The animal remains of Siberia are not so much imbedded in a layer of ice as in frozen mud overlying the ice, the ice itself being supposed to have been originally deep accumulations of snow, buried by the wash of floods, and by dust mixed with wind driven snow. Besides the mammoth and woolly rhinoceros, the remains of many smaller northern animals, with driftwood, occur in these deposits.

Says J. Giekie: "Layers of frozen earth alternate with sheets of ice, and the presence in the latter of the well-preserved bodies of mammoth and woolly rhinoceros indicate that we are here dealing with accumulations of Pleistocene age. It is not necessary, therefore, to suppose that all the mammalian bones met with in the snperficial deposits of the far North are the remains of animals which somehow got frozen into river-ice in lower latitudes and afterwards were transported toward the polar regions. The mammoth and its congeners lived all the year round in northern Siberia, when the cold was not so intense as it is now."

Sir J. W. Dawson on Deluge Traditions.

"A still more important speculation, arising from the facts recently developed as to prehistoric men, is the possible equivalency with the historical deluge of the great subsidence which closed the residence of paleocosmic [Palæolithic] men in Europe, as well as that of several of the large mammalia. Lenormant and others have shown that the wide and ancient acceptance of the tradition of the Deluge among all the great branches of the human family necessitates the belief that, independently of the Biblical history, this great event must be accepted as an historical fact which very deeply impressed itself upon the minds of all the early nations. Now, if the Deluge is to be accepted as historical, and if a similar break interrupts the geological history of man, separating extinct races from those which still survive, why may we not correlate the two? The misuse of the Deluge in the early history of geology, in employing it to account for changes that took place long before the advent of man, certainly should not cause us to neglect its legitimate uses, when these arise in the progress of investigation. It is evident that if this correlation be accepted as probable, it must modify many views now held as to the antiquity of man. In that case, the modern gravel and loess, on plateaus and in river valleys, far above the reach of present ffoods, may be accounted for, not by the ordinary action of the existing streams, but by the abnormal action of currents of water diluvial in their character. Further, since the historical deluge cannot have been of very long duration, the physical changes separating the deposits containing the remains of paleocosmic men from those of later date would in like manner be accounted for, not by slow processes of subsidence, elevation and erosion. but by causes of more abrupt and cataclysmic character. This subject the writer has referred

to in previous publications, and he is glad to see that prominence has recently been given it by so good a geologist as the Duke of Argyll, in a late number of the Contemporary Review."—The Story of the Earth and Man, 1887, appendix.

Both Dawson and the Duke of Argyll were writers that advancing science left behind. Dawson, as well as some other geologists, were advocates of subsidence views, now generally if not entirely abandoned, except in so far as direct evidence warrants such belief. Traditions of deluges, it is now recognized, are scientifically and historically worthless. There is no such thing as a "historical deluge."

There have been in times past a number of attempts made to connect the Biblical story of the Deluge, either with subsidence views or with the Glacial period. We have already seen that the glacial hypothesis had hardly been two years before the public when Hitchcock is found venturing a suggestion of that nature, which he subsequently withdrew from his text book (pp.87-88). All such attempts, however, of whatsoever nature, have ever proven futile. They have been of the nature of endeavors to bring the developing knowledge of physical subjects into seeming harmony with the early chapters of Genesis, forgetful of the fact that the progress of knowledge itself may upset the the most elaborate schemes of reconciliation. The professors in the theological institutions having come generally to regard those chapters as history idealized (p. 136) would now be apt to say, "These chapters need no reconciliation with Science; this reconciliation business is all wrong."

Before the glacial hypothesis had been developed (about 1840) and when submergence views held sway, Sedgwick, an early English geologist and contemporary of Buckland, wrote: "If we have the clearest proofs of great oscillations of sea level, and have a right to make use of them, while we seek to explain some of the latest phenomena of geology, may we not

reasonably suppose, that, within the period of human history similar oscillations have taken place in those parts of Asia which were the cradle of our race, and may have produced that destruction among the families of men, which is described in our sacred books, and of which so many traditions have been brought down to us throught all the streams of authentic history?"

HUXLEY ON THE CONTINUITY OF NATURE.—"But the inspection of these changes gives us no right to believe that there has been any discontinuity in natural processes. There is no trace of general cataclysms, of universal deluges, or sudden destruction of a whole fauna or flora. The appearances which were formerly interpreted in that way have all been shown to be delusive, as our knowledge has increased and as the blanks which formerly appeared to exist between the different formations have been filled up. That there is no absolute break between formation and formation, that there has been no sudden disappearance of all the forms of life and of replacement of them by others, but that changes have gone on slowly and gradually, that one type has died out and another has taken its place, and that thus, by insensible degrees, one fauna has been replaced by another, are conclusions strengthened by constantly increasing evidence. So that within the whole of the immense period indicated by the fossiliferous stratified rocks, there is assuredly not the slightest proof of any break in the uniformity of Nature's operations, no indication that events have followed other than a clear and orderly sequence."—N. Y. Lectures on Evolution, 1876.

A FEW CORRECTIONS.

Page 20. Near the foot of this page an unfortunate misprint occurs which was overlooked in correcting, thus: "And the waters prevailed excedingly upon the earth; [fifteen cubits upward did the waters prevail;] and all the high mountains" etc. The words here enclosed in brackets do not occur in that connection in the text, but below instead, as on the page referred to.

Page 47. No sacrifice made by Noah in Armenia would have been implied as possibly having been mentioned in the document of the Priestly Writer, had the footnote to page 23 been in mind when page 47 was put in type.

Page 58. "If the one hundred days" etc; the number of days should read "one hundred and fifty."

Page 65. The imaginary subterranean abode that was called Sheol should have been placed between the plane of the earth and the abyss of waters, according to pictured representations, and not below them.

Page 77. James Buckland, should read William Buckland. This is a case of trusting to memory for a given name and with nothing at hand to refer to as to that point.

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